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MEETINGS AND LECTURES

2 January

at 5.45. Architectural Science Board Lecture.

"PLASTERING," by Mr. H. Andrews, B.Sc. (Building Research Station).

The functions of plaster—inter-relation of plastering and other building operations—materials used for plastering, lime, cement, calcium sulphate plasters, sand—choice of plastering mix in relation to (a) background. (b) plaster finish required. (c) decorative finish—present trends in plastering materials and methods.

To develop the discussions which take place at the lectures, it has been decided to print the papers for circulation before the date on which they are to be given. Copies of the lectures may be obtained two weeks before they are due to be delivered on application to the R.I.B.A. Librarian-Editor, 66 Portland Place, W.1.

15 January

at 2.30 p.m. Council.

at 6 p.m. Informal General Meeting. Mr. Gordon Stephenson [F.], on "The Planning of Residential Areas."

6 February

at 5.45 Architectural Science Board Lecture: Mr. H. M. Llewellyn on the Painting of [Internal] Plastered Surfaces.

R.I.B.A. LECTURES TO BE GIVEN BY PROFESSOR J. D. BERNAL, F.R.S.

Professor J. D. Bernal, F.R.S., has kindly agreed to deliver two lectures at the R.I.B.A.

The first lecture will take place at an Informal General Meeting to be held on Tuesday, 12 February, at 6 p.m. The title of Professor J. D. Bernal's paper is "Science in Architecture." This lecture will deal with the possible contributions of science to architecture and will be of wide interest to all architects.

The second lecture will be an Architectural Science Board lecture to be delivered on Wednesday, 6 March, at 5.45 p.m. Professor J. D. Bernal will speak on "Building Research." This lecture will be of a specialist character with specific references to the work of the Scientific Advisory Committee of the Ministry of Works and also to the possible actual programmes of collaboration between members of the Ministry Committees and of the R.I.B.A. Architectural Science Board.

Journal

SIR PATRICK ABERCROMBIE, ROYAL GOLD MEDALLIST, 1946

His Majesty the King, on the recommendation of the Royal Institute, has awarded the Royal Gold Medal for Architecture for 1946 to Professor Sir Patrick Abercrombie [F.], architect and town planner.

THE PRESIDENT'S CHRISTMAS APPEAL FOR THE A.B.S.

As in previous years the President addressed his Christmas appeal for the A.B.S. to all members. Mr. Percy Thomas wrote as follows:

Architects' Benevolent Society,

66 Portland Place, London, W.

November 1945.

DEAR SIR OR MADAM,—This year we are able to celebrate Christmas with thanksgiving for the end of fighting, and with a prospect of peace and progress. But the work of the Architects' Benevolent Society for the alleviation of hardship and distress among the aged, the sick and orphans is still needed and increasingly urgent.

Shortage of funds now often prevents us from giving to dis-

tressing cases help that will really be adequate. Once again, therefore, I appeal to every member of the Architectural profession, especially to the 13,000 who do not yet subscribe, to send a special Christmas gift towards our work. Most can afford at least half-a-crown—the cost of one packet of cigarettes. Will you please send what you can spare, and give us the means to help others in desperate need?

Yours very truly,

PERCY THOMAS,

President, Architects' Benevolent Society.

R.I.B.A. STAFF CHANGES

The Council of the R.I.B.A. has reorganised part of the Institute's staff arrangements and made some new appointments. Mr. Gerald Essame, B.A., has been appointed Assistant Secretary and is taking up his duties in January. Mr. Essame was educated at Magnus School, Newark, and at Selwyn College, Cambridge, where he was exhibitor in History, obtained honours in History and English and a post-graduate diploma in Education. Afterwards he took a course in business administration at the London School of Economics, subsequently becoming personal assistant to the chairman and managing director of the Abbey National Building Society. Joining the Territorial Army in 1938,

A

he was commissioned in 1939 and had a distinguished army career, becoming a staff officer in 1942 and attaining the rank of Lieutenant-Colonel in 1944.

The Council has decided to make separate departments of the Library, the R.I.B.A. JOURNAL and Public Relations. The work of the Library has increased so much that it has become necessary for the Librarian-Editor, Mr. E. J. Carter, B.A., A.A. Dipl. [A.], to devote his whole time to it. The editorship of the JOURNAL is being taken over by Mr. Eric L. Bird, M.C. [A.], who before the war was Technical Editor and Secretary to the Public Relations Committee and who has recently been released from war-time service with the Ministry of Home Security. The new Public Relations Officer is Mr. George E. Marfell, B.A. He has recently been demobilised from the Army and is to take up his duties in January. Before the war Mr. Marfell was exhibition organiser at the R.I.B.A.

DANGER TO GOOD ENVIRONMENT

JOINT ACTION BY THE R.I.B.A. AND THE ALLIED SOCIETIES

Members are asked to help in an endeavour to ensure proper planning in town and country which the R.I.B.A. and the Allied Societies are making jointly. The help now asked of members is simply that they should report cases of unsound planning proposals as soon as they hear of them. Frequently notice of such cases is received too late for effective action to be taken.

Wrong proposals for planning or building by local authorities and public utility undertakings, the thoughtless demolition of buildings of historic interest or architectural merit, the requisitioning by service departments of sites which ought to be preserved for other use are instances in which representations made to the proper authorities may result in a better course being followed.

The Council therefore asks members to report to the Secretary of their Allied Society any such wrong proposals as soon as they hear of them. The Allied Society will either act themselves or call upon the R.I.B.A. to join with them. It must be emphasised that the effectiveness of this scheme depends on the co-operation of members.

LECTURERS WANTED

The R.I.B.A. is constantly receiving from schools, institutes, service groups and units, civic and village societies, etc., enquiries which it is at present quite unable to meet for lectures on general architectural subjects. It is thought that there will be many architects and others being released from the Forces who have had a good deal of experience in giving lectures and talks who might care to offer their services. Evening and week-end lecturers are needed in addition to those who can spare an occasional afternoon. There is a wide field of opportunity, and the Secretary of the Lectures Committee will be very glad to hear from any volunteers, who should write direct to the R.I.B.A., 66 Portland Place, W.1.

Intending lecturers will be interested to know that the Institute now has a collection of some 500 topical architectural photographs specially prepared for their use, particulars of which can be had on application.

SCALE OF FEES FOR THE EMERGENCY CONVERSION OF DWELLING HOUSES INTO FLATS BY LOCAL AUTHORITIES

In May 1944 the Council, after consultation with the Ministry of Health, approved a scale of fees for the Emergency Conversion of Dwelling Houses into Flats by Local Authorities and the Scale was published in the JOURNAL for May 1944.

Discussions have taken place with the Ministry of Health on the revision of Clause 1 of the Scale, which deals with the charge on a time basis for the survey of the premises for the purpose of preparing drawings and the Ministry have agreed to the revised Clause which was approved by the Council on 16 October 1945.

The Scale as now revised is given below.

After consultation with the Ministry of Health, the Council of the

R.I.B.A. have approved the following scale of fees for the emergency conversion of dwelling houses into flats by local authorities.

(1) For making detailed survey of the building :

Principal's time	£7 7 0 a day
Senior Assistant's time	£3 13 6 "
Junior Assistant's time	£2 12 6 "

Note : Senior assistants to mean assistants receiving £8 8s. a week and upwards ; junior assistants, those receiving up to £6 8s. a week.

The above time basis is in respect only of the time taken to measure up the dwelling or dwellings on the site and the preparation of plans and, if necessary, sections to a scale of $\frac{1}{4}$ inch to 1 foot. Other technical work where instructed is recompensed by the percentage scale of fees.

(2) For preparing working drawings and specifications of the works (or equivalent document) ; where necessary, obtaining tenders and/or arranging a contract ; for general supervision of the execution of the works and certifying for payments and completion :—

10 per cent. on works costing up to £500 with a minimum fee of £10 10s.
9 per cent. on works costing between £500 and £1,000 with a minimum fee of £50.
8 per cent. on works costing between £1,000 and £1,500 with a minimum fee of £90.
7 per cent. on works costing between £1,500 and £2,000 with a minimum fee of £120.
6 per cent. on works costing over £2,000 with a minimum fee of £140.

(3) The above fees are exclusive of travelling expenses and other reasonable disbursements and the fees under (1) are in addition to those under (2).

(4) The above fees are exclusive of the wages of a clerk of works.

(5) The above fees are exclusive of those for quantity surveying services. If such services are required, fees will be allowed, in addition, on the normal professional scale.

Fees for quantity surveying services will be allowed where the works cost more than £1,000, and where these services are rendered by a Quantity Surveyor or a firm of Quantity Surveyors practising as such, not being the person or firm rendering the services described in paragraph 2 of the scale above.

Provided only that where the person or firm who has rendered the services described in paragraph 2 of the scale above in the capacity of Architect, is also in regular practice as Quantity Surveyor, fees for Quantity Surveying services may also be allowed where the certificate that these latter services have been performed is signed by the person (stating his qualifications) who has actually rendered such services and also by the principal or firm with which he is connected.

(6) The above fees are inclusive of the fees of any consultant or specialist engineer by whom the architect or surveyor may wish to be advised.

(7) The fees are to be calculated on the cost of the building work carried out to a property or properties for which one set of drawings and one specification have been prepared. In the event of a group of similar properties being dealt with by the same Architect and where one set of drawings and one specification are supplied for the whole of the properties then the scale may be applied by reference to the aggregate cost of the work.

(8) The fees for abandoned work for which professional services have been rendered shall be calculated by reference to the R.I.B.A. Scale of Charges, Clause 2 (e) (i), (ii), (iii) and (iv).

CERTIFICATES OF STRUCTURAL SAFETY OF PLACES OF PUBLIC ENTERTAINMENT

The attention of the Practice Committee has been drawn to cases where members have been asked to give certificates to the effect that certain places of public entertainment are "structurally fit and safe for use by the public."

The Committee have expressed the view that an architect could not be expected to certify as to the structural safety of places of public entertainment for which he has had no responsibility and that it would not appear adequate for him to rely only upon visual evidence.

The Practice Committee were also of the opinion that if such a certificate is considered by the licensing justices to be necessary, it should be the duty of the appropriate statutory officer to issue the certificate.



Rimini : Tempio Malatestiano

THE PRESERVATION OF HISTORICAL ARCHITECTURE IN THE WAR ZONES

By **LIEUT.-COLONEL SIR LEONARD WOOLLEY**,
M.A., Hon. Litt.D. (Dublin), Hon. LL.D. (St. Andrews), Hon. A.

A Paper read to an Informal Meeting on Tuesday, 13 November. The President in the chair.

The Organisation

The creation of a branch of the Army Staff to deal with the protection of Monuments, Fine Arts and Archives is something which has no precise precedent in the annals of the British Army. The need to protect objects of artistic or historic value has not been unrecognised in the past, but never before had a special organisation been formed to secure such protection.

It must be emphasised that the organisation which I have to describe was essentially Anglo-American, dependent on the Supreme Command of the Allied Forces. Before that joint Command was realised, in North Africa special officers had been told off to safeguard the archaeological interests of a country which could boast the ruins of Cyrene, of Leptis Magna and Sabratha, and that was a unilateral British act. But in Italy, in France and the Low Countries and in Germany until S.H.A.E.F. was replaced by the present quadripartite Command, Monuments, Fine Arts and Archives was a joint affair; in Italy, for the most part of the time, an American Director and a N.W. Europe a British Director had under him a staff on which the two Allied Countries were more or less equally represented.

As the title of the Branch shows, the work has been fairly catholic—buildings, sculpture, pictures, historic documents and the records of Government departments, municipal offices and even trading concerns have come within its purview. But speaking to-day to the Royal Institute of British Architects I propose to confine myself to the buildings in which the Institute may be presumed to have a special interest.

And here let me put on record the debt which I owe to the Institute. The Army had to enlist the services of architects having a special knowledge of the architecture of ancient Rome,

of Italy, or of France, a knowledge of the country and the spoken language, and a readiness to work at Army pay and within the limitations imposed by Army conditions. I applied to the R.I.B.A. and received from our secretaries the most willing and the most fruitful help. There was not a British architect enrolled for work in N. Africa, in Italy or N.W. Europe who had not been suggested and sponsored by the Institute. It is only fitting that to the Institute should be rendered an account of their stewardship.

The work of the Branch, as regards architectural monuments, was threefold.

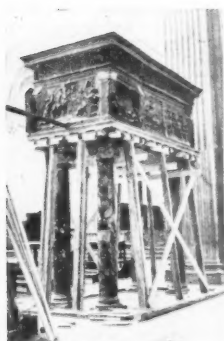
Buildings still in enemy hands, and therefore liable to attack by the Allied Forces, had to be protected so far as was possible from war damage. Buildings which had fallen into our hands and had suffered war damage had to be protected by emergency repairs against any subsequent deterioration. Buildings within our lines had to be protected against damage which might be done to them by the ignorance, the carelessness or even the deliberate vandalism of Allied soldiers.

These were our objectives.

Now one thing is abundantly clear; none of these objectives could be secured by an extraneous body of experts, whether civilian or military. Civilian experts could not accompany the armed forces in the field and, if they had done so, could not give orders to the troops. Officer experts could accompany the forces, but, being necessarily few in number, could not be present everywhere where an historic building stood in peril, and if they were there they could not, as non-combatants, issue orders to the troops or, as junior officers, instruct the senior commanders on their duties. If the monuments of art were to be protected



Fig. 1.—Trajan's column, Rome, cased in reinforced concrete and brick.



Figs. 2 and 3.—San Lorenzo, Florence. Donatello's pulpit efficiently protected in a strong brick casing.



Fig. 4.—Sta Chiara, Naples. The tomb of Robert of Anjou inefficiently protected by sandbags.

by the Army then their protection must be an Army responsibility—the duty of the expert was not to give orders but to help the forces to carry out the orders issued by the military High Command. The basis of the organisation, therefore, was a special order by the Supreme Commander-in-Chief to his subordinates. As an example of this I would quote General Eisenhower's letter to all commanders and general order to the Forces in Italy.

The Supreme Commander's Orders

28 December 1943

TO : ALL COMMANDERS.

To-day we are fighting in a country which has contributed a great deal to our cultural inheritance, a country rich in monuments which by their creation helped and now in their old age illustrate the growth of the civilisation which is ours. We are bound to respect those monuments so far as war allows.

If we have to choose between destroying a famous building and sacrificing our own men, then our men's lives count infinitely more and the buildings must go. But the choice is not always so clear-cut as that. In many cases the monuments can be spared without any detriment to operational needs. Nothing can stand against the argument of military necessity. That is an accepted principle. But the phrase "military necessity" is sometimes used where it would be more truthful to speak of military convenience or even of personal convenience. I do not want it to cloak slackness or indifference.

It is a responsibility of higher commanders to determine through A.M.G. Officers the locations of historical monuments, whether they be immediately ahead of our front lines or in areas occupied by us. This information passed to lower echelons through normal channels places the responsibility on all Commanders of complying with the spirit of this letter.

The General Order says :

"No building listed . . . will be used for military purposes without the explicit permission of the Allied Commander-in-Chief or of the General Officer Commanding-in-Chief, 15th Army Group in each individual case. Commanders concerned are authorised, as a further measure of security, to close and put out of bounds for troops any of the buildings listed . . . that they deem necessary. Notices to that effect will be affixed to the buildings and guards provided to enforce them if necessary."

"Allied Military Government officers are prepared to furnish commanders with a list of historical buildings. . . Commanders are reminded that buildings containing art collections, scientific objects, or those which when used would offend the religious susceptibilities of the people, should not be occupied when alternative accommodations are available."

"The prevention of looting, wanton damage and sacrilege of buildings is a command responsibility. The seriousness of such an offence will be explained to all Allied personnel."

Advice to Allied Troops : The Lists of Monuments

An order, to be effective, must be definite. Hence the lists of monuments whose protection was demanded of the troops. These lists are of prime importance and their compilation was a matter of some difficulty. In the U.S.A. the Roberts Commission had elaborated magnificent lists for all the countries concerned ; but they were so long that the Army would not agree to them, seeing that they were likely to hamper military operations. The English lists were too short to satisfy the lovers of art. In the case of Allied territories, local sentiment as well as unbiased æsthetic judgment had to be consulted. Consequently new lists were made by and for the Army, and these, prepared by the Commander-in-Chief's order, were circulated down to battalion Commanders. Thus we had officers in the field technically qualified for the work of advice and direction ; operationally, we had the authority of orders from the High Command, and we had a perfectly clear and understandable definition of the scope of those orders. How far, then, did all this work ? To what extent did the monuments profit by this machinery of protection ?

In the first place, due credit must be given, in the case of Italy especially, for the protective measures adopted in advance by the native authorities.

In Italy practically all movable works of art of any importance were removed to places of safety. Those which could not be

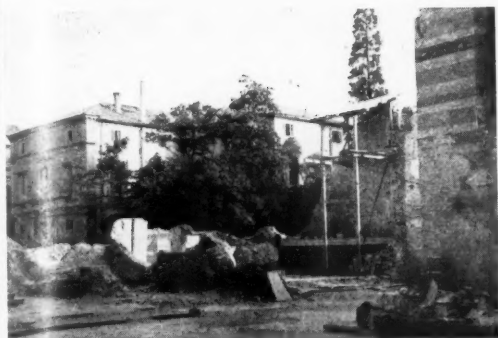


Fig. 5.—Padua, The Eremitani Church. The Mantegna Chapel totally destroyed by a badly-aimed stick of bombs.

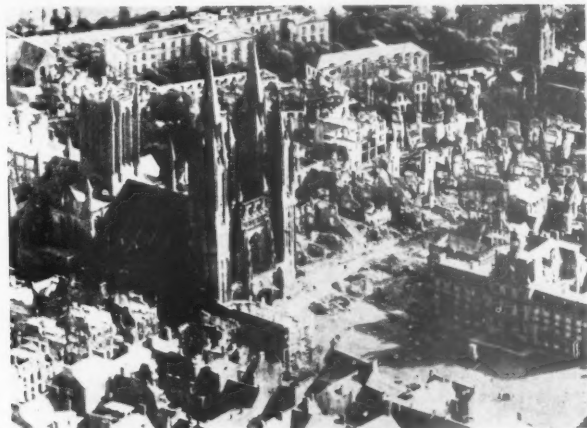


Fig. 7.—Coutances Cathedral undamaged in the centre of an almost totally destroyed area.

moved were shielded in the most elaborate fashion, as shown in illustrations taken from *La Protezione del Patrimonio artistico nazionale dalle offese della guerra aerea*.* (Figs. 1-3).

Naturally, there were failures. In the early days protective screens were often constructed of heavy timbering and sandbags—in the church of Sta. Chiara at Naples, as in our own Temple church, this was found to be a disastrous method, for the timber caught fire and the heat calcined the monuments which it was supposed to protect. But an immense amount of precious things, and sculptural decoration in particular, was saved by the Italian A.R.P. from the effects of air bombing and of artillery fire.

The Allied forces did their best to minimise the damage they might do to historic buildings; but damage was inevitable. Air bombing was responsible for much. The airmen were briefed about the targets which they were to avoid as well as those at which they were to aim—they were furnished with elaborate town plans showing the exact positions of monuments (these had been drawn up by the Roberts Commission) and they had air photographs on which the same monuments were marked. Such precautions explain the immunity of, for instance, the two great Norman Minsters at Caen and the Cathedral at Coutances, when the greater part of the town was ruined. But with air bombing, especially with night bombing, absolute accuracy of aim cannot be expected. That in the badly ruined town of Ravenna only one of the listed monuments suffered serious injury is perhaps due more to good fortune than to superhuman skill—though the intention to spare them was there. It was bad fortune which caused one stick of bombs to fall on the Eremitani Church at Padua when every other missile hit its target squarely, the railway station and marshalling yard 400 yards away. It was a definite mistake—a failure in recognition—that led to the destruction of the Cathedral of Benevento. Such

Fig. 6. (below)—Benevento Cathedral destroyed through a failure in recognition.



Fig. 8

Fig. 9

Figs. 8 and 9.—Aachen Cathedral (above) and Town Hall, both almost unharmed. The Cathedral received some damage in the Hungarian chapel: the Town Hall was damaged but not seriously and can easily be restored.





Fig. 10



Fig. 11



Fig. 12



Fig. 13

Figs. 10 and 13.—More examples of notable buildings saved from destruction by the careful briefing of British and American gunners and airmen. Fig. 10, the centre of Argentan two hours after entry. The cathedral suffered considerable but not irreparable damage. Fig. 11, Worms Cathedral, spared by precision bombing by the U.S. Air Force. Fig. 12, Cologne Cathedral. The Hohenzollern Bridge in the background was a main target. Fig. 13, Mantes Cathedral.

things are inevitable and no precautions can prevent them; but there are innumerable cases—the Cathedral at Aachen, the whole artistic centre of Bologna, where damage was limited to the Palazzo dell' Archiginnasio, the church tower of Hoogstratin are the first that come to my mind—where the safety of the monuments was secured by the deliberate action of the Allied armies. It is worth putting on record the fact that abbreviated lists of the most essential monuments along the northern coast of Normandy, and again of those immediately within the Western German frontier were supplied to the front-line gunners at the special request of the Royal Artillery.

Conservation after Liberation

It was in connection with the second objective—the conservation of buildings after they had fallen into our hands—that the technical knowledge of our architects was essential.

On entering a captured town the Monuments Officer had first of all to ascertain the condition of the listed monuments. A preliminary report had to be drawn up for the information of H.Q. Where a building was damaged a more detailed examina-

tion had to be made to decide whether emergency repairs were called for, and if so of what nature. Sometimes, of course, immediate action was required, and for this the aid of the Senior Civil Affairs officer on the spot had to be invoked. If possible the examination would be made in collaboration with the Italian authorities, the town architect or the local inspector of Antiquities, and a detailed project drawn out together with an estimate of costs. Small jobs might be met by the funds at the disposal of the local Government, the Genio Civile, or of church officials; for larger and more expensive jobs the estimate had to be submitted to the Finance Department of Civil Affairs and the execution of them would be entrusted to the Italians under the supervision of the Monuments and Fine Arts branch. All the work was done at Italian expense, but the scope of the work was defined, the programme approved and the credits granted by the Allied military administration. Since the Italians were for the most part very ready to undertake the repair of their monuments when once their apathy had been overcome by the instigation of the Allied Monuments officer, the position of the latter



Fig. 14.—(Above) Spoleto. The Clitumnus Temple protected from passing traffic by concrete posts.

Fig. 15 (to left).—Florence, Torre Borgo San Jacopo.

Fig. 16 (to right).—Vicenza, Palazzo Braschi : brick and timber shores erected by the Allies and the Italians after occupation.

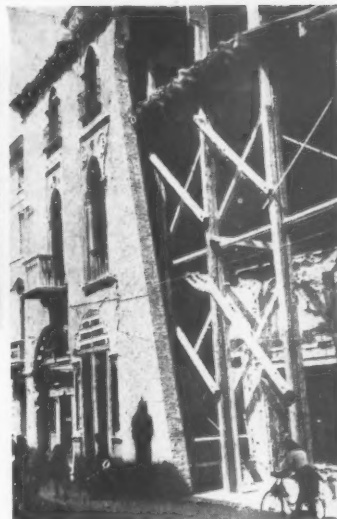


Fig. 17 (below centre).—Fano, Palazzo della Ragione, the scar left by the Vanvitelli campanile which was mined by the retreating Germans.

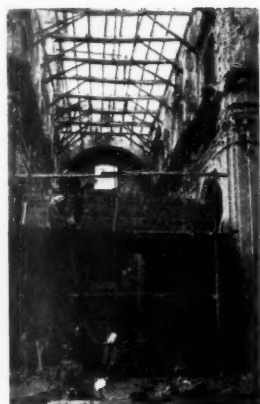


Fig. 18 (above).—Naples, Sant' Eligio. The erection of a wall to divide a seriously damaged part of the church from the less damaged part.

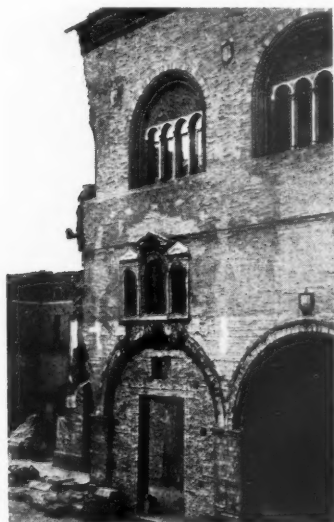


Fig. 19 (below).—Ancona, San Domenico. Repairs undertaken by the Monuments and Fine Arts officer nearing completion.



Fig. 20 (above).—Ancona, Palazzo del Senato with buttresses built by the Allies and the Italians after liberation.

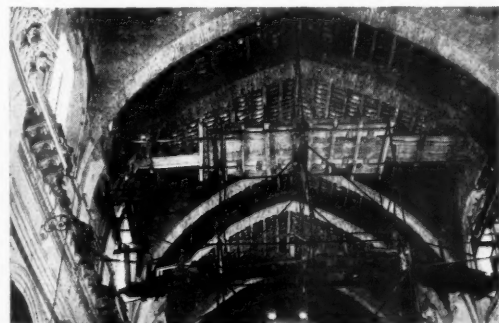


Fig. 21 (below).—Acquapendente, Church of the Collegiata. The nave roof could not be repaired soon enough and collapsed during the winter.



tended to become that of an adviser rather than of a dictator; in France, of course, and in Belgium and in Holland, he was primarily an adviser and a colleague and all the practical side was left to the French, Belgian or Dutch authorities. In Italy, as a conquered country, the Monuments Officer was ultimately responsible for whatever work was done. Occasionally this meant demolition. In other cases an unsafe wall could be propped by buttresses or a shaken arch filled in with masonry. When part of a building was wrecked and another part of it well preserved, a dividing wall might be built to protect the better preserved part against the effects of weather. In a vast number of cases roof repairs were the main concern, for two reasons—first, that the roofs suffered most readily from the effects both of concussion and of fire, and secondly because there was so often the question of frescoes or stucco decoration, perishable elements which needed overhead protection if they were not to be completely ruined. Long-term repairs might be done at once, more often had to be left, as in the case of the tempio Malatestiana at Rimini, to the Italians in the future.

What this has meant can be shown by a few figures. In the relatively small but much damaged city of Brescia estimates of 3,600,000 lire for the repair of eight buildings was approved. In Florence, with its limited damage, all due to German mines, approved expenditure amounts to 9,668,166 lire; in Pisa estimates came to 19,289,176 not counting the very great amount spent directly by the Army on repairing and re-roofing the Campo Santo. In Pisa all the damage was done by the Germans. The only harm which resulted to any building from our artillery fire was slight damage to one window in the famous Leaning Tower.

Protection from Occupying Troops

Lastly, there was the protection of buildings from damage at the hands of our own people. The simplest course was the putting of a building out of bounds to troops; in the case of a church, for instance, this would normally suffice provided at least that the building was recognisable as such. When a building was, wholly or in part, damaged beyond repair, its ruins had to be safeguarded against the removal of rubble or unnecessary demolition, to the end that any decorative elements might be salvaged for ultimate reconstruction. Above all it had to be seen that there was no improper use made of buildings still usable. Listed monuments were, by the Supreme Commander's orders, exempt, except in very special conditions, from military use, but billets often had to be improvised and sometimes the artistic sanction was either unknown or disregarded. It was then the invidious task of the Monuments officer to raise his objection to the building's occupation by troops. Where other accommodation was hard to find, a compromise might be effected, certain rooms only being put out of bounds and used, perhaps, as a repository for valuable pieces of furniture taken from rooms whose use was eventually allowed; in other cases special precautions might be taken to preserve the interior decoration. Occasionally it might happen that military occupation gave the only opportunity for preserving a building. Thus, the roof of the Royal Palace at Naples was holed in every direction by air bombing and where sixty churches in the city were calling for repair funds would never have been available for extensive work on a seventeenth-century Palace. But a rest centre for the troops was needed and the vast bulk of Domenico Fontana's building was admirably suited to the purpose. With the approval and under the supervision of the Monuments and Fine Arts branch the Palace was taken over; its roof was mended and waterproofed and in the principal rooms the rich mural decoration was protected by screen walls. Similar work was done in Vanvitelli's enormous eighteenth-century baroque palace at Caserta, which became the Headquarters of the Allied armies—incidentally, the famous staircase is intact, as is the water-garden with its two-mile vista of basins, fountains, cascades and statuary. On the other hand the use as a military store of the National Museum at Naples, where the sculptures still remained in the galleries, was after enquiry disallowed and the building was evacuated.

The Success of the Scheme

Such are the measures taken by the Armed Forces to protect the monuments of art. Then follows, naturally, the question, how far have they succeeded? or, better, what is the extent to which the treasures of European architecture have been destroyed?

The record of damage makes sorry reading—it is bound to do so. If we list the buildings that have been destroyed or damaged, it might well appear, as one familiar name follows another, that little had survived from the orgy of destruction.

It is necessary to look at things in a better perspective.

In the first place, damage is more often than not repairable; it may be very slight, it may affect those parts of a building which are of least concern to the art lover. The total of buildings destroyed beyond hope of repair is relatively small. What we ought to do is to take the total number of historic monuments in any one area and see what percentage of them has disappeared or has been irretrievably damaged.

At the beginning of the war the French authorities produced a list of 25 buildings essential to the history of French art. Of these only one suffered serious injury, the Cathedral of Rouen. In the cathedral, six bays in the South nave aisle were demolished together with their chapels and four of the buttresses and flying buttresses; the roof of the south aisle was destroyed; part of the facing was stripped from the S.E. pier of the central tower and the pier was cracked, but the central tower itself and the spire are intact. The Tour Saint Germain was gutted. On the other hand, though the south side of the nave is open to the air, there is no structural damage, and the west front and the lower part of the transept façades are unharmed. The tracery of the rose windows of the north and south transepts has suffered but can be restored. The sculptures of the façade and the tombs in the Lady Chapel are safe. Three of the 25 buildings suffered minor damage; 21 are intact.

If we take a single area; in the five departments of Normandy, where the fighting was fiercest and most prolonged, of some 210 officially listed buildings, which may be assumed to be the most important, 25 are described as "destroyed," "badly damaged" or "gutted."

In Italy, in the regions of Apulia, Calabria and Lucania six buildings were destroyed or seriously damaged out of a total listed of about 170. In Tuscany, perhaps the most hard-hit of all the Regions, of 792 listed monuments 488 are intact; 304 are described as requiring help from the Allied Military Administration or from the Italian Government; of these most had suffered roof and window damage only; 72 of them are described as destroyed or seriously damaged, but even so repairs have been or are being executed in the majority of cases so that at least part of the building can be salvaged. While only a detailed description of each can give a fair estimate of what has been lost and what survives, it is perhaps not unduly optimistic to say that less than five per cent. of the listed monuments in Tuscany have perished utterly or been so far destroyed as to have lost their character and their interest.

What has suffered most has been the baroque architecture. Owing to its nature, the elaborate decoration and so on, it has suffered a great deal. In quite a number of cases the baroque façade has given way and has exposed the Gothic architecture underneath. I remember one church in Palermo where a magnificent and solid pillar of the main structure had fallen down and exposed the old round Norman column. Now the whole architecture can be restored to its original Norman style form. That is not at all an uncommon thing. It is satisfactory to know that of all the classical monuments in Italy, not one has suffered any serious damage; most of them are absolutely intact. In North Africa the great classical monuments have also come through the war practically unscathed. The same is true of Greece; no major building has suffered at all. When the fighting took place and the British Forces were involved last Christmas, things looked very bad indeed. We held the Acropolis in force and the hill was bombed and bombarded by mortar fire. In fact a large splinter was detached from one column of the Parthenon, one

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Fig. 22 (above left).—All that remains of the Church of San Tomasso, Ortona.

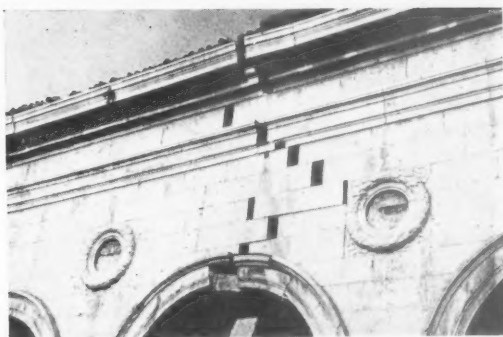


Fig. 23 (above right) and Fig. 24 (below right).—The Tempio Malatestiano, Rimini (also see headpiece). This was gutted and the main walls more seriously damaged than at first appeared evident. This work was left for the Italians to complete.

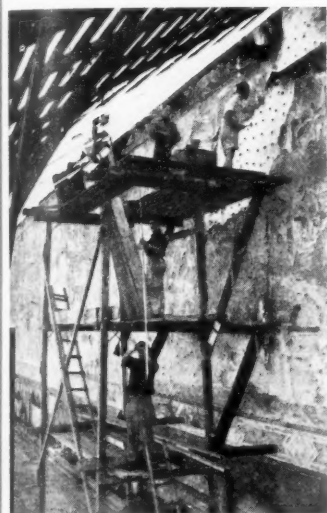


Fig. 25 (left below).—The building of a temporary roof over the frescoes in the Campo Santo, Pisa.



stone was scarred, and for the rest, white flakes caused by small-arms fire are the only harm which was done.

If you go further afield, to Burma, the story is the same. The whole of the site of Pagan, with 500 historic buildings, is absolutely intact. There is nothing to deplore in the way of damage to architecture in the whole of Burma.

The terrible effectiveness of modern explosives and the difficulties, especially for night bombing, of pin-point accuracy of aim are considered, then it is not to the small band of expert advisers that our main thanks are due but to all ranks of the Allied armies.

Enough has been said to show the importance of the work done by the officers of the Monuments, Fine Arts and Archives Branch, enough, I hope, to give some idea of the magnitude of their task, and of the extent to which it has succeeded. But it must be said that nothing could have been done without the co-operation of the combatant forces, which we have enjoyed in full measure. At the start there was some suspicion that the demands of the enthusiast for art might prove hampering to military operations. Thus shortly before the Allied landing in France objection was raised to the proposed official list of "reserved" monuments on the grounds that they were so numerous as to interfere with the necessary billeting of troops. The answer was that of the 210 monuments scheduled in the five departments of Normandy not more than 35 could in any case be turned to such uses; the list was then promptly approved and, more than that, during the actual advance the Monuments

officers were authorised to add to the list any buildings which in their opinion ought to enjoy immunity. If the historic monuments of Europe have suffered far less than might have been expected when the intensity of the fighting, the terrible effectiveness of modern explosives and the difficulties, especially for night bombing, of pin-point accuracy of aim are considered, then it is not to the small band of expert advisers that our main thanks are due but to all ranks of the Allied armies.

VOTE OF THANKS AND DISCUSSION

EXTRACTS FROM THE SPEECHES

The President: I am sure that you have all, like myself, thoroughly enjoyed Sir Leonard's address to-night. It may be encouraging to our local authorities that if the military authorities could take this care of beauty and of ancient monuments during the war, they might take steps to do the same even though it might be with less success. I am now going to call upon Major-General Anderson, the Director of Civil Affairs at the War Office, to move a vote of thanks to Sir Leonard.

Major-General A. V. Anderson, C.B., M.B.E.: From the time when this plan was first conceived in the military mind, Colonel Woolley has been an advisor on these matters to the War Office, and in that capacity he has carried out an important function. Many people are fully apprised of what is desirable; many other people, or different people, are very keenly aware of what is practicable, and it is only when you come to reconcile the desirable with the practicable that you can build up a programme and an organisation to achieve it. It was that reconciliation of the desirable and the practicable which was

achieved by Colonel Woolley, and that is the debt which we at the War Office owe to him.

Major Anthony Blunt: The most important point which I feel has come to light from Colonel Woolley's extraordinarily precise and exact description of the work of the monuments section has been the very high degree of success which was achieved in this extremely difficult task. I think most of us must have been surprised and encouraged by the figures which he gave of the percentage of buildings which were saved and the percentage of buildings which were destroyed. There are one or two examples of how the mixture of chance and skill which go toward saving a building. The most extraordinary example of all is that of S. Maria delle Grazie at Milan, where two bombs fell, one in the middle of the cloister and one just south of the church. If either of them had fallen five yards away they would have destroyed something vital.

One point which struck me was the skill with which the work and the instructions of the Allied advisers were followed up by the Italian authorities. In one case, the church of S. Lorenzo in Rome, the damage was very serious, but already the portico has been reconstructed in such a way that the damage is hardly visible and certain new features have been revealed. In that particular case there was also a piece of luck in that the bomb carried away a large part of the very hollow reconstruction of Pius IX and exposed a great deal of medieval masonry. Another example was the work I saw being done on the reconstruction of frescoes at the Istituto di Restauro in Rome. The most important were the frescoes from Viterbo. A bomb had secured almost a direct hit and had brought down three-quarters of the frescoes from the wall in fragments, some of which were 9 ins. across and some $\frac{1}{2}$ in. across. Already the Italian authorities have succeeded by a process of infinite patience and very great skill, in putting together an area of 15 to 20 ft. square in such a way that it can be replaced in the church. The collaboration which the Italian authorities have given in following up the work of the Allies in the first instance is worth placing on record, but undoubtedly it was the Allied officers and the close collaboration between the experts and the military which saved the buildings in the early stages.

Lord Rennell of Rodd: May I add one thing to what has been said about Sir Leonard Woolley's work and the work of the Section? It is this. He has not said a great deal about what he himself has in fact done, not so much in the direction of actual preservation of monuments, as in achieving the results described. I myself have been associated with the administration of occupied territories in the very first areas we occupied in 1941, and I am probably more keenly aware than anyone else here of the difficulties which arise in trying to protect works of art, archeological works, in an atmosphere which is uncongenial. The results which were achieved could only have been achieved as a result of a long process of education of the Allied Armies. It is a curious feature of our life, especially in this country, that although the Army in time of war is composed of precisely the same people who live here in time of peace, they seem to neglect on joining the Army many of the things which they learnt or knew before.

You will recollect that when we first landed in Italy in the summer of 1943 there was a considerable outcry, both in this country and in the United States, against vandalism and the alleged attitude of the Allied Armies in southern Italy towards ancient monuments. That was a grossly exaggerated campaign, but as a matter of fact it had great value because it brought home to Commanders, both high and low, what civil public opinion in civilised countries felt about the protection of monuments. It was at that moment, while the campaign was developing, that Sir Leonard Woolley first came out to Italy. The damage in southern Italy had been much less great than had been anticipated in England, but nevertheless it was sufficient to give Sir Leonard the opportunity of going to the highest authority, the Allied Supreme Commander, and causing that letter and that Order to be issued of which he read extracts. That Order owes its instigation entirely to Sir Leonard Woolley. Moreover it was that Order which gave the clue to everything which followed. As you know, the attitude of a Commander in a unit is always reflected in the personnel of that unit, be it large or small. This attitude having been adopted by the Supreme Commander, it was naturally adopted all the way down to the lowest unit Commanders. But it was only as a result of the process of education begun by Sir Leonard that that co-operation became really possible.

There is one other thing I should like to add. I hope that the lessons learnt in dealing with ancient monuments will not be lost and that the process of education may go on, both through the Army machine and through the educational machine in this country. Not only must it be carried in the directions to which your President has referred, but even further afield. It has been this lack of education and appreciation which has allowed us in this country for so many years, for instance, to neglect the unique monuments in Cyprus which have been under our

charge for 60 years. They were in a disgraceful condition in comparison with what was done by the Italians in Rome and elsewhere.

M. R. L. Varin (representing the French Embassy): I have had some experience of seeing how your Air Force tried not to bomb the monuments of France. I was in Chartres when your airmen came over to bomb the installations there and when two of your aeroplanes were shot down. They certainly flew very low in order not to damage the Cathedral and I wish to pay homage to your airmen on that account.

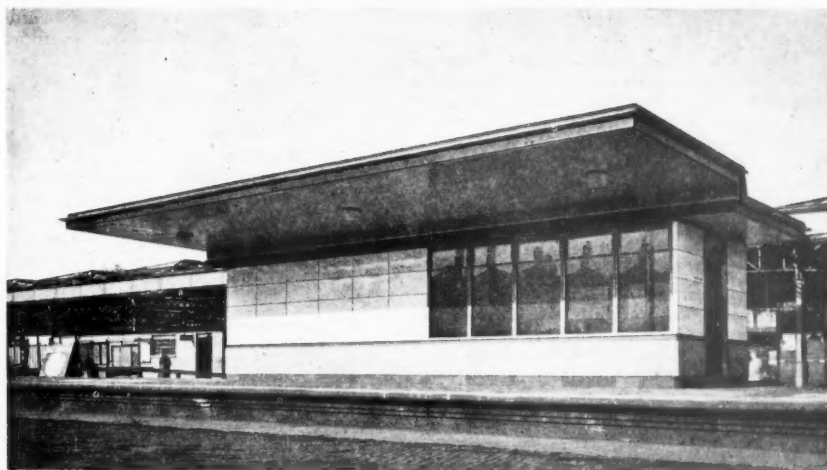
Brigadier F. G. French, C.B.E.: I have only one small word to add to what has been said and it has a personal bearing. Very few people here can know how this work began. Sir Leonard Woolley has not always been an adviser on fine arts and monuments in the War Office. His first job was information and propaganda, and when I first joined the War Office he was writing campaign histories. It was in those days, in 1941, that I had to go to his office from time to time, knowing that certain monuments were in danger and beseeching Sir Leonard's help. It was from that small beginning that this work sprang. You will remember that Sir Leonard said that this was an Allied business, but it was he who began it. This organisation is the product of Sir Leonard Woolley's brain, and I think he should have full credit for it.

Squadron-Leader J. E. Dixon-Spain (F.): May I support what the last speaker has said? I was one of those sent with the invading armies to North-west Europe and having been brought up in the Army in my youth, I embarked on my duties with some trepidation. It seemed to me to be a fantastic thing for an apparent soldier to arrive in a battle area and proclaim himself a Monuments, Fine Arts and Archives Officer, and I imagined the ribaldry that might ensue. Nothing of the sort, however, happened. For the initial period I was with the First United States Army and subsequently with the Second British Army. Throughout the whole of my experience nothing of the kind transpired. To my surprise I found my work approved, my advice frequently sought, and my warnings heeded. This I realised to be the fruit of the propaganda, the education and the organisation emanating from Sir Leonard Woolley—so well had he prepared the way for us. It is a privilege to have heard the fine balance sheet which he has presented to us this evening.

Mr. Henry M. Fletcher, M.A. (F.): This organisation which has done such extremely fine work appears to be British. Was there a similar organisation in the American Army and the French Army? Another question which I should like to ask is: what is meant by restoration?

Sir Leonard Woolley: I must thank you very much for listening to me with a great deal of patience, and I must thank the speakers for the kind things that they have said about me. I want them to realise that it is the organisation which has been responsible for the results obtained and the work of the officers who played their part in that organisation. They were chosen with extraordinary care. The recommendation from the R.I.B.A. was not the last word. Other points had to be considered, such as personality and ability. They carried the day sometimes against the more technical qualifications. In making that choice I relied not nearly so much on my own judgment as on that of my wife, who gave me her opinions. That in my opinion was the final judgment, and it was certainly justified by the quality of the officers chosen.

The work of education was in the hands of these relatively few men and they carried it through in the most astonishing way. I may say that the first picture exhibition which was organised was in Rome, and it contained a matter of 48 masterpieces. It had to be kept open much longer than was intended, and it was visited by over 135,000 uniformed men. There were protests when finally it was closed. This work of education has been of extreme value, and I hope that it will have its effects after the war. I hope it will be realised that beautiful things are not confined to other countries, but are to be found in this country as well. We have gone to great lengths to protect and preserve the damaged monuments of Europe, while apparently we neglect altogether the not less important and not less artistically valuable monuments of this country which have suffered from enemy bombing. Throughout it has been a joint affair, Anglo-American. We solicited the help of the French very early on, and we have relied on the assistance of the Italians as well. In the end the French formed an organisation somewhat similar to ours and in the Low Countries Commissions were also appointed to carry on the work. We set the example—I think we can say that—and in so far as it has been followed, the work done has been done more in the light of future reparations. I can only conclude by thanking you for your forbearance and kindness and by insisting again that it is not to myself, but to the officers in the field that our real thanks are due in the first place and (in the second place) to the Armies which so loyally supported us in the efforts we made.



AN EXPERIMENTAL STATION BUILDING

BY THE LONDON & MIDLAND & SCOTTISH RAILWAY ARCHITECT'S OFFICE

I. BACKGROUND

Some years ago, to be exact in March, 1941, a note was published in this JOURNAL which outlined the development work that was being undertaken by the Architect's Office of the L.M.S. Railway Company under the direction of W. H. Hamlyn [F.].

The work at that time consisted of an enquiry into the station buildings which had recently been carried out by the Company. It was intended to make a full study of the effectiveness of station planning and the performance of structure and finish. The questions which this study attempted to answer referred to such things as the volume and fluctuations of traffic, the areas and plan arrangements in relation to numbers of passengers, the type of structure used, its cost, its speed of erection and its maintenance problems.

But although these questions were the main concern of the new Development Section in 1941, it was clearly realised that this type of study was merely analysis, and that development work embraced a positive aspect of research growing out of these preliminary studies. In fact, the note published in the JOURNAL indicated that this initial work of analysis was one phase of a cycle in which it was followed by research development, which in turn became the basis of the actual production of the building itself. The public office with its continued concern with particular types of work provides unique opportunities for this developing interaction of analysis, research and practice which are seen to be activities that constantly arise from each other. The idea of the prototype station building illustrated in this article originated from the preliminary analysis of stations which has been described: it is in fact the research development arising out of these preliminary investigations and is intended to be a point of departure for future building work.

The preliminary investigations had shown that there were certain desirable characteristics for station buildings. It was important, for instance, that their construction should allow flexibility of planning in order to meet changing conditions or modifications of accommodation. Maximum speed of erection was essential in order to interfere as little as possible with traffic. Materials, naturally, in view of the special conditions which they

had to meet, were required to have special qualities of finish (to withstand particularly bad atmospheric conditions) and of strength (to meet problems of vibration and hardwear). Both finishes and materials had in fact to be extremely robust. In addition to this, low maintenance cost was essential—this involved the necessity of retaining a smart appearance by simple cleaning and the possibility of repairing defects by an easy replacement of parts.

These general requirements are not normally nor very easily combined. Several of them, such as speedy erection, flexibility etc., are answered by the prefabricated building, but up to the present at least, the prefabricated building has usually been of a light and temporary character. The other requirements can be met by more permanent materials but raise new problems if they are required in connection with flexibility and prefabrication.

The problem had, however, been clearly set down and it did not seem to be out of the question to achieve a building which would give the necessary performances. The scientific support which was necessary was fortunately available in the Company's Building Research Committee and from 1942 onwards the "Unit Station" has been the main concern of this Committee. On the committee, under the chairmanship of Sir Alfred Egerton, F.R.S., were scientific, engineering and medical representatives. The architect members were W. H. Hamlyn, J. L. Martin and R. Ll. Davies, the latter acting as secretary and co-ordinating the development work. It was consequently possible to bring specialist knowledge to bear on any problem. The engineering representatives, for example, could be responsible for calculations in connection with the awning construction and the preparation of the welded steelwork and its erection. The Company's Research manager could deal with the large number of tests required on such problems as weathering, corrosion, strength, vibration, thermal insulation, jointing, etc.

It was thought desirable from the outset, in addition to laboratory tests, to erect a full-scale model in the form of a prototype building. Apart from giving the clearest possible demonstration of the character of the system, the full-scale model provided the only effective means of carrying out the necessary scientific investigations into the performance of materials and into problems of erection. The question of time studies as a

means of finding out weaknesses of design and as a gauge of labour cost, was, for example, vital.

It was consequently decided to build a section of a station, two awning bays in length and containing in its plan the main parts of the station requiring test. The plan includes fundamentally, waiting room, heating unit and lavatory unit. The building is built on a disused platform at Queen's Park Station, where it stands between an electric line and a steam line. This site gives extremely bad conditions of dusting and vibration, to which can be added those of general atmospheric pollution.

II. GENERAL DESCRIPTION OF MATERIALS AND METHODS

Dimensional Grid

Before the design of the various building units was begun, it was necessary to decide on a dimensional grid. Suitable sizes for windows and doors, the spacing of booking office windows, room sizes, the sizes of manufactured materials and many other factors had to be balanced.

After a good deal of study it appeared that the dimension of 3 ft. 4 in. provided the best solution and work was begun upon this basis. It was interesting to note later an article in the *Architects' Journal*, in which this dimension was recommended as the most satisfactory on which to base the design of prefabricated buildings.

Using the 3 ft. 4 in. grid, a 3 ft. wide door, necessary on public buildings, can be employed. Again, partition systems can be built up with the standard types of sheeting made in 3 ft. widths. As experience is gained in the design of buildings, the grid dimension will be reviewed and modified as necessary.

Awning

The steel-framed awning was designed for decking with timber roof units of large span. These units, which employed the stressed skin principle, were developed from an experimental design originally produced by the Engineers' Department and tested by the Research Department at Derby.

The steel-framed awning is supported by three central tubular steel columns 6 in. in diameter and at 16 ft. 8 in. centres, which support the welded roof frames. These frames are formed of two 7 in. by 2½ in. rolled steel channels 8 in. apart and spaced by means of small flats welded to the back of the channels. These flats support the gutters and are designed to act as diaphragm plates. This construction enables two channels to be handled as one roof frame. This design of roof frame has the advantage that on a curved platform the channels, instead of being parallel, can be set to take up the change of angle, thus enabling a standard timber roof unit to be employed in all cases. The arms over the platform and the waiting room are balanced, but on the waiting room side provision is made for an unbalanced load, which would occur should the platform arm require extension for a wider platform.

Such loads are taken care of by a 3 in. diameter circular steel column which is bolted down to the concrete foundations. The roof frames are tied together by means of 7 in. by 2½ in. channel members, those at the outside forming valance girders. All shop connections are welded and the units arrive on the site ready for bolting together in position. The design is very economical in material, the total weight of steel employed being only 5 lbs. per sq. ft. of area covered.

Foundations

The design of the foundations includes a duct running right round the building close to the outside walls. This duct accommodates the hot and cold water services, heating mains and the drain.

By providing a continuous horizontal duct with removable covers round the entire building, it has been made possible to carry out any necessary repairs or alterations to any of the services without interfering with the structure or taking up the platform.

The foundations and the duct are combined in the form of a U-shaped pre-cast concrete unit, manufactured by the Company's

Concrete Depot at Newton Heath. The units were provided with holes of the correct spacing for fixing the wall posts described.

Wall Posts

The wall panels, windows and door frames are attached to wall posts spaced at 3 ft. 4 in. centres round the building. The design of this wall post raised many problems and a number of different posts were considered. These included a circular tube with welded lugs for fixing purposes, a square section tube, pressed steel posts of various types and also posts in timber and in non-ferrous metals.

Finally, a post composed of two steel box channels welded back to back was designed. This post gave the necessary strength while only occupying a space 2 in. by 2 in. in plan, and also provided for every convenient fixing.

The small number of posts required for the experimental station were produced by pressing, but the section does not lend itself very well to this form of production and if a large quantity is required, they can be produced by cold rolling at a very economical price.

The rustproofing of the posts is being considered by the Research Department and it is thought probable that a phosphate treatment will be found to be the best solution. As fixing is made to the posts without cutting or drilling them, the protective coating will not be broken into.

It was found possible to standardise posts completely so that no specials will be required for corners or door openings. This, of course, makes for economies in production.

Fixing to the posts is accomplished with three types of friction clip. One clip fixes to the face of the post, one to the side and the third is employed at the corners of the building. These clips are mass-produced from strip steel. Each clip has an aircraft-type lock nut riveted to it and the complete assembly is then zinc-plated. Screwing to the clips can be carried out without holding the nut from the back and once the screw has been tightened up, the fixing cannot shake loose from vibration. A record of the actual vibrations will be made at the Queen's Park site and a test assembly will be submitted to similar vibration by the Research Department to verify the behaviour of the fixings. This may enable economies to be made in the design; for instance, it may be found possible to reduce the number of clips used in the fixing of some of the units.

A resilient pad is used between the wall panels and the wall posts to avoid damage to the former when they are screwed up. A number of different materials for this purpose were tested by the Research Department and a strip composed of felt coated with polyvinyl chloride has been used on the experimental station. Other materials are under consideration.

Exterior Wall Panels

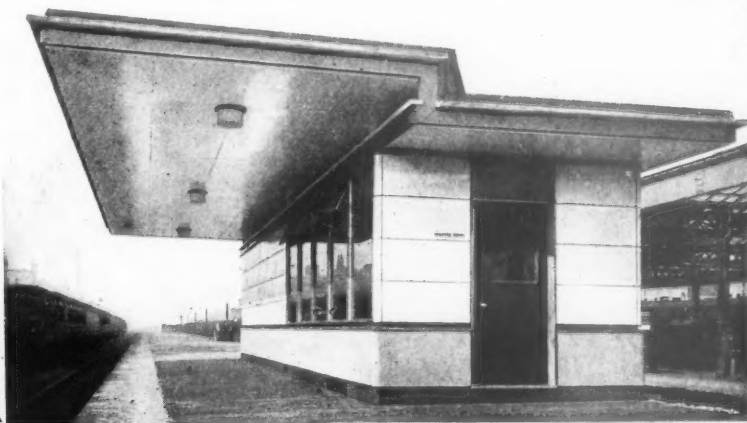
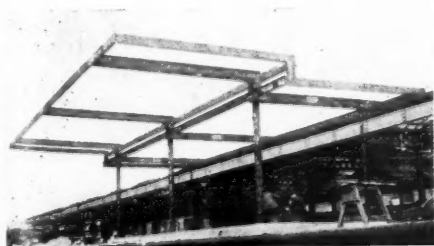
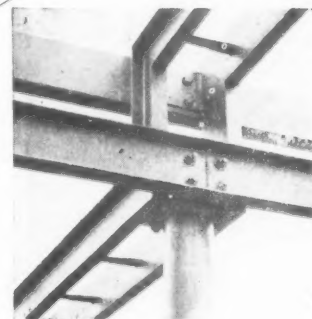
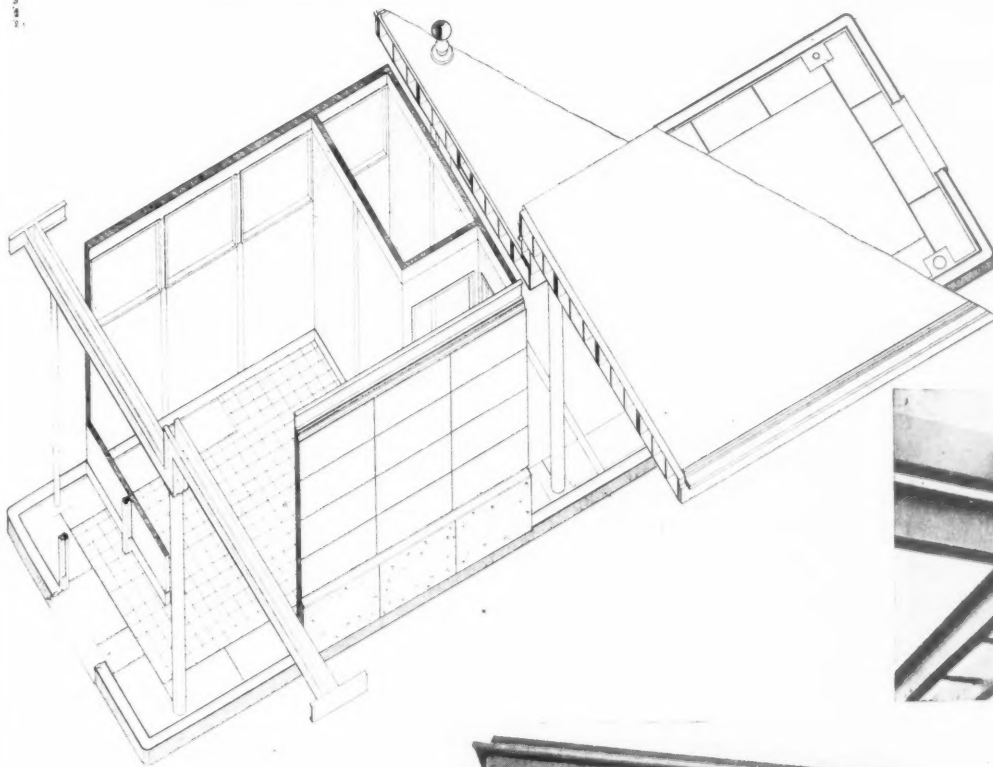
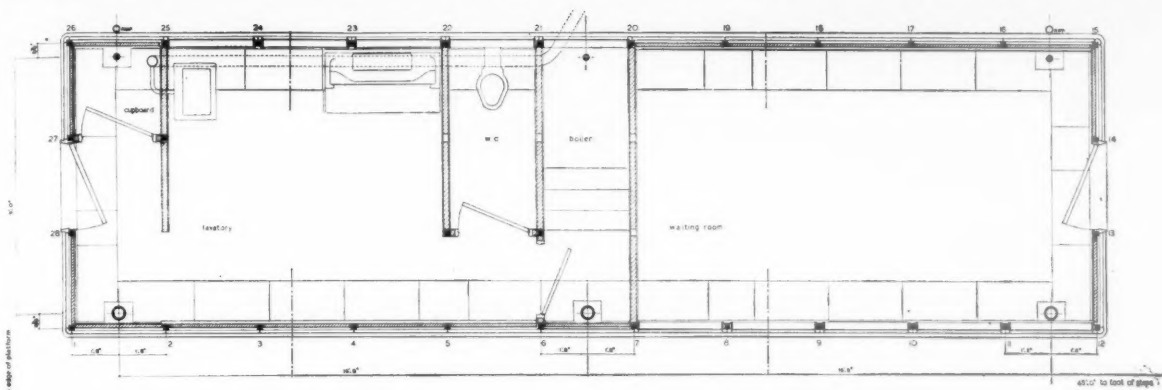
Available materials for the external surface were considered in the light of the requirements for easy cleaning and low maintenance mentioned above. A study of existing stations showed that materials such as brickwork, masonry, and concrete were open to objection on platform buildings. This is due to the action of the awning, which keeps rain off the wall. Materials which weather pleasantly under normal conditions become smoke stained on stations, and eventually become so dirty that they cannot be cleaned at all. Again, it was noticed that from window cill level upwards, absorbent materials such as brickwork, developed a greasy stain.

This stain cannot be cleaned off and is especially marked at shoulder level.

From cill level downwards, there is heavy damage from luggage barrows; even comparatively hard bricks are broken up by the iron corners of the barrows.

These facts seem to call for the use of two different materials, one up to cill level and one above.

Up to cill level the overriding consideration is resistance to impact and wear. The development of a suitable material for this purpose is a difficult problem and is being made the subject of study in co-operation with the Research Department. On the experimental station a panel produced by the company's Pre-



cast Concrete Depot at Newton Heath is used. This panel is faced with a granite aggregate. Other panels in cast iron and heavy steel plate are under consideration. There is also the possibility of placing the building on a raised platform to keep barrows off. Again, some form of guard rail or bumper might be used, but is open to objection as a source of obstruction on the platform.

Examination of existing stations, both on the Company's system and on other railways, showed that the only materials really suitable for use above cill level are those with a ceramic glaze. This glaze is the only finish yet found which resists the very corrosive and dirty atmosphere common on railway stations and which can be cleaned down with a hose or mop. It can be obtained on tiles or glazed bricks, in the form of Vitrolite or other special glasses, or in the form of vitreous enamelled steel or cast iron. The glazed bricks and tiles can at present only be had in small sizes, are subject to crazing and raise problems in fixing and jointing. Vitrolite or other glass sheets require fixing in some form of frame with putty or beading. This fixing is costly and forms undesirable ledges which collect dirt. Also the sheets are very fragile.

Experience had been obtained at South Kenton Station with vitreous enamelled steel panels (which were used at this station by the Company's Architect in 1935) and a report on the behaviour of the material had been made by the Research Department. This material had also been widely used in America and had given good results there over a period of years.

It was felt that there were advantages in this material sufficient to justify some research and development work. Two problems had to be solved before a suitable panel could be produced. These were the development of a reliable enamelled surface and the design of satisfactory fixing and jointing details. An investigation into the enamel was carried out by the Research Department and samples submitted by a number of manufacturers were subjected to a series of tests. These tests revealed that there was a very wide range of quality in the different enamels on the market and eventually samples were produced which showed satisfactory properties.

The principal test to which the enamels have been subjected is the accelerated weathering test devised by the Research Department. The life of the earlier enamels being in the order of 2-7 cycles while that of the enamel actually used in the test unit is well in excess of 200 cycles. The treatment of the backs of the panels has been a point of particular care, because investigation had shown that failure occurred preferentially on the backs of vitreous enamelled panels. Resistance to thermal shock and abrasives has also been taken into account in selecting the enamel.

The weak points in vitreous enamelled steel are the edges and the holes through which the fixing screws pass. These weak points must be kept back from the face of the building to avoid attack by moisture and should, if possible, be completely concealed. After a certain amount of experimental work a panel was eventually produced which satisfied this requirement. The panel consists of a tray with edges turned in all round. An upstand on the top edge provides for fixing and also acts as a flashing in the event of any moisture passing through the joint. All edges and fixings are completely concealed.

It is also possible to remove a damaged panel from the outside of the building without interfering with the interior. Fixing holes in the panels are slotted to allow for adjustment on the site within the limits of the manufacturing tolerance. Vertical alignment between the panels is ensured by the use of a specially designed brass dowel.

A very large and attractive colour range is available in vitreous enamel and as the material is so easily cleaned, it is possible to use light colours which cannot safely be used on station buildings in the ordinary way. The panels actually used on the Experimental Station are light blue, but samples are available in a number of other shades.

It was found possible to standardise the panels to two types; one is the ordinary straight wall unit, and the other a quarter

round unit for use on the corners. It is considered that it may be advisable in future to use some other material for the corner panels to lessen risk of damage. A metal corner of the same material as that used for the window frames is under consideration.

Windows

Most of the existing stations have window frames of steel or softwood. These frames require painting, and there may be a case for using some material for the frames which would not require this continuous maintenance. Experimental windows were designed and produced in aluminium alloy and in bronze. Later, when hardwoods such as teak are available, the possibility of designing a suitable window in these materials will be investigated. Aluminium alloy and bronze can be extruded. This process enables the production of almost any section, where the pressing and rolling processes by which steel frames are produced, only allow for certain special forms. Advantage was taken of the extrusion process to design sections specially suitable for railway station windows. All types of window are carried in a main frame shaped to fit between the wall posts and to finish flush with the wall panels. This eliminates all projecting ledges. The main frame can carry either a fixed sheet of glass or an opening light, according to the requirements of the particular situation. Aluminium alloy windows employ a sliding light and the bronze windows a top hung casement. Double glazing can be incorporated if required. The glazing bead and internal cill are combined and form a single removable section which can either be metal, hardwood or plastic. The design of the window sections was submitted to the Metallurgical Section of the Research Department for their comments, and modifications were made to eliminate points at which corrosion might be likely to occur. The behaviour of the metals under weathering at the experimental station will be observed and reported upon by them.

Extruded sections were also employed for the external cill which runs right round the building, and for a trim at the top of the wall.

Door Frames and Doors (External)

The door frames are built up of extruded sections, similar to those used for the windows. The frame is completed at the bottom by a heavy section steel chequer plate. This holds the frame rigidly together during transport and provides a good threshold which will not wear away.

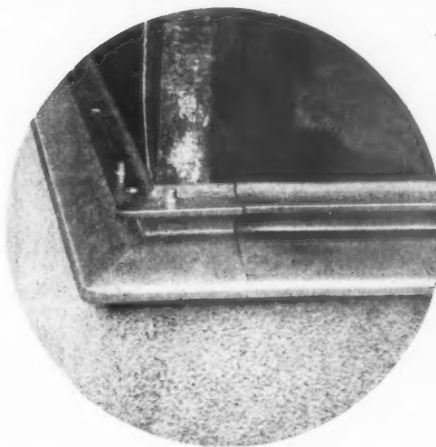
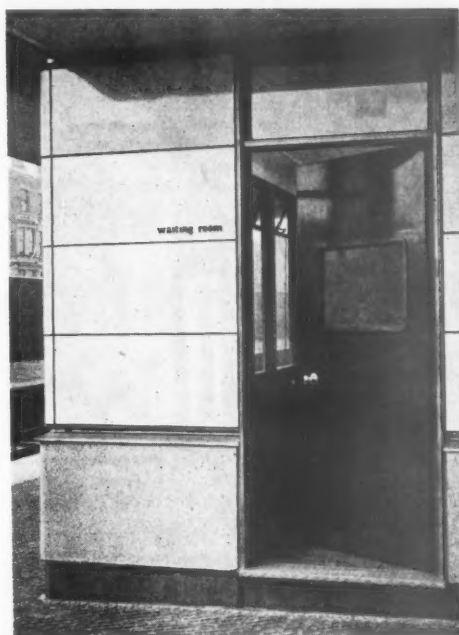
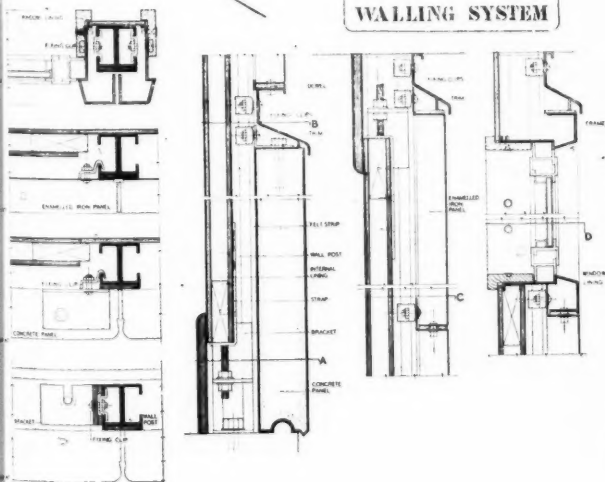
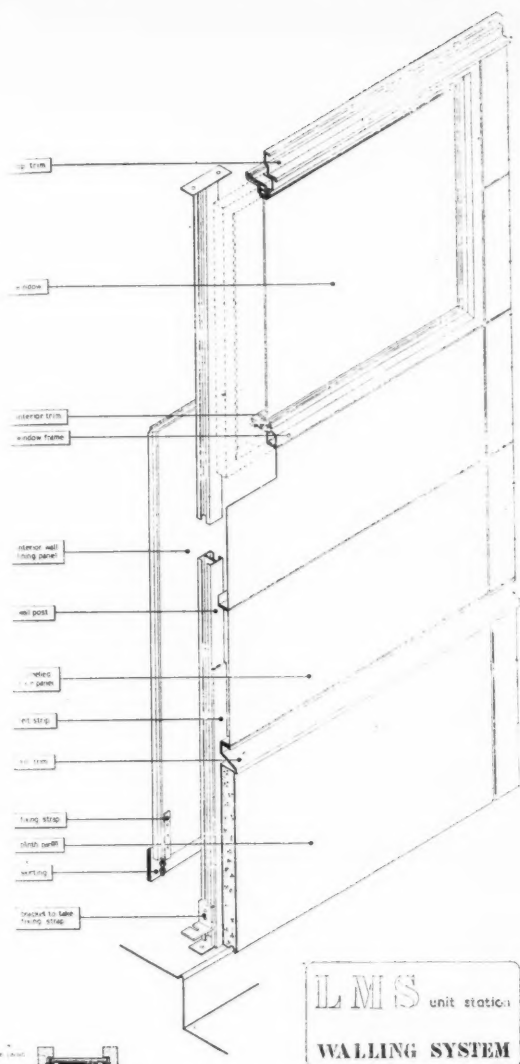
The doors are built up in the form of a sandwich with an insulating core of expanded paper pulp and aluminium faced plywood. These doors will require painting and a solid teak or other hardwood door might be a more satisfactory solution when these materials become available. The experimental door has, however, the advantage of being extremely light, and the aluminium facing will stand up well to damage.

Jointing Materials

Joints between the enamelled panels, windows and door frames require sealing with a suitable material. The Research Department carried out an investigation of various proprietary materials designed to obtain information concerning the following characteristics: adhesiveness, water resistance, resistance to deformation under load and durability (which includes the rate of change in hardness and adhesion in addition to the surface deterioration). In addition, methods of application have been considered, and in the course of this work it was found that the jointing compound could play an important part in the lateral rigidity of the enamelled panels.

Eventually it was decided to experiment with two alternative types. One of these, used with the enamel panels, consists of a mastic extruded into a strip and rolled on a drum. This strip is unrolled on the site and laid on the jointing as the work proceeds. The upper surface of the strip is protected by a layer of cellophane, which is peeled off before the next unit is put in position. This material is very convenient in use. An alternative type of mastic also tried is applied by means of a gun. This is somewhat thinner in consistency and is forced through the

(Continued at foot of next page)



nozzle of the gun by hand pressure or compressed air. This type of mastic can be forced into the joints after the wall has been erected dry, but is preferably laid in the joints as the work proceeds. It is hoped that some comparative judgment on the two different systems will be made as a result of the experience at Queen's Park. The latter type was used on the concrete units.

Wall Linings

The design of the wall linings is based on the requirements of thermal insulation. Considerable research has lately been made into the economical level of insulation for external walls, and it is now thought that a thermal transmission coefficient of not more than 0.25 B.T.U.s per square foot, per hour, per degree difference, should be aimed at.

In deciding the appropriate thermal transmission the Committee had the advantage that the chairman, Sir Alfred Egerton, had been closely associated with official research on the subject. A wide range of insulating materials is now available, and the Committee decided to make a series of special tests at Derby

designed to show what performance could be expected from the different systems.

An approximately cubical structure of 7 ft. side was erected in a temperature controlled room, and heat transfer coefficient of the wall sections with different insulating arrangements measured. From the tests it is possible to give reasonable forecasts of the heat transfer using other materials of known properties. A satisfactory result was given by corrugated metal foil attached to the inside of the inner lining and also by placing cork in the panels. In the latter case the potentialities of cork are reduced by transfer through unprotected posts, corners, etc.

One result of the tests was that it was found unnecessary to place insulation inside the vitreous enamelled panels, as sufficiently good results could be achieved by insulation in the air space or inside the lining. The tests also showed that further attempts should be made to find a highly insulating cover strip which would check the loss at the points where the wall posts occur.

At Queen's Park the linings are hollow panels built up of metal faced plywood on a timber frame, and insulation is provided by glass silk quilt hung in the cavity between the lining and the outside panels. In future work, it is intended to use a lining with a core of insulating material. This will enable the glass silk to be omitted. The overall transmission coefficient for the wall is not expected to be more than 0.25.

Linings are held in position by a system of brackets and straps which facilitate rapid erection and adjustment within the limits of the manufacturing tolerance. The cover strips which close the gaps between the linings are flush with the wall surface. This gives a solid appearance to the wall and makes it less likely that the strips will be removed or interfered with by the public. Hardwood mouldings are used at the corners; these can be planed down, if necessary, to allow for any creep in the dimensions down the length of the wall.

The metal surface will stand up to damage, and also provides a vapour barrier. This vapour barrier is important in that it prevents the warm moist air from the inside of the buildings passing through the wall and causing condensation on the backs of the metal wall panels or on the posts. The linings will require painting internally but could be finished by infra red stoving to give a very durable surface similar to that used on steel office furniture.

The general design of the linings allows for the use of materials with a permanent surface on which painting would not be required, such as plastic sheets or glazed asbestos, should such materials prove satisfactory and economical.

The linings can be produced very cheaply in bulk by any of the firms engaged in the manufacture of flush doors. They are fixed at about 5 in. above floor level to prevent the timber being affected by moisture. Any defective panel can be easily removed and replaced without interfering with the adjacent units.

Partitions

Partition units are constructed on the same system as the linings. Units can be placed at any point on the 3 ft. 4 in. grid, and angle and tee junctions made wherever required. One type of unit only is employed, apart from the special door unit, which is interchangeable. Partitions can be connected to the external wall at any point on the grid by simply removing the cover strip.

As in the case of the linings, the cover strips on the partitions are flush with the wall surface, giving a very solid appearance.

The partition provides an economical and completely flexible method for dividing any building up into rooms; and it is expected that it will prove useful in office buildings as well as in stations. An interchangeable glazed unit can be easily designed if required.

Channels are provided for electric wiring at skirting level and just under the ceiling. Wires can also be dropped vertically at the joints between each unit, in a space of 2 in. by 2 in. Switches can be mounted on the cover strips at these points and the body of the switch can be housed in the interior space,

giving a flush switch plate on the outside. Alterations and repairs to the wiring will be possible by simply removing the cover strips, skirtings or cornice without any interference to the rest of the partition.

It will be possible to design special units, interchangeable with the standard partitions, carrying booking office windows, parcels counters and built-in fittings.

Heating

Central heating is provided. In actual practice, of course, station buildings as small as the experimental unit at Queen's Park would generally not be centrally-heated but the system, if it proves satisfactory, will be applied on somewhat larger schemes.

The installation consists of a gas-fired boiler which serves radiators placed under the windows from a ring main running round the floor duct just inside the walls. This system makes it easy to remove the radiators and re-install them in a different position should the station rooms require re-arrangement. The radiators are of the flush panel type and have no ledges or air vents to collect the dirt. They are controlled by valves inside the ducts, accessible to the station staff but not to the public. A specially-designed extruded aluminium trim surrounds the radiator panel.

On some types of station it will be necessary to provide for a heating pipe at high level and the design includes a duct space available for this purpose.

Lighting

The electric cable enters the building through the floor duct and comes up to a distribution board in a cupboard. From here, circuits run down the special ceiling duct in the centre of the building, which is provided with a removable access cover. Ducts are also provided between the double channel main roof members. These run out over the awning to the platform light fittings, which are provided at 16 ft. 8 in. centres down the building.

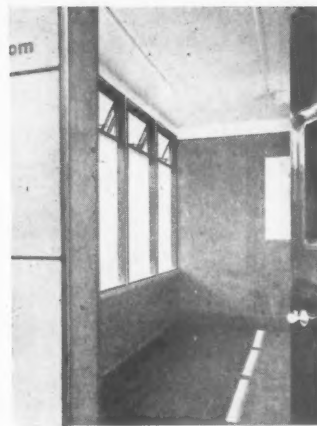
Drainage

Drainage of existing stations is generally carried out by bringing the drain from each fitting out under the wall to a manhole in the platform. The removal of the manhole covers on the platform in order to attend to the drains causes obstruction and discomfort to the passengers.

Considerable developments in the scientific design of drainage have taken place in the last three years, and a valuable report has been issued by the Ministry of Works. These developments have enabled the design of drainage to be simplified and made cheaper. The layout adopted at Queen's Park makes use of a single horizontal cast iron drain laid in the floor duct and connected to each fitting through suitable traps. The size and layout of the connections is such as to prevent siphonage. Access is available to the whole of the drain at all points and cleaning eyes are provided at the bends. One manhole only is required where the drain leaves the building. Apart from the advantages of easy maintenance which this type of layout offers, it also makes it possible to alter or extend the drainage system without interfering with the structure or platform. Very valuable advice and assistance was received from the Building Research Station during the design of the layout. Hydraulic tests will be made of the system when it is complete in order to verify its performance.

A specially designed type of W.C. is fitted. This has no spaces at the back where dirt or rubbish can accumulate. It is also provided with a cleaning eye directly over the trap. Experience has shown that blockage often occurs at the traps on these fittings and the normal type of W.C. has to be broken up and removed if this stoppage cannot be cleared. The flushing cistern is placed outside the W.C. and thus cannot be damaged or interfered with by the public.

A wash basin is provided, although, of course, this would not usually be fitted in a small station. It was felt, however, that it would be worth while installing a basin in order to make sure that the plumbing problems involved could be solved if necessary.



The basin used is of the hospital type, which is much superior to the ordinary domestic type, from the point of view of design and ease of cleaning. As in a hospital, it is bracketed clear of the wall. All pipe runs are concealed to avoid the collection of dirt. The splashback behind the basin is of Perspex and is unbreakable.

Floors

Floors are finished in tiles with waterproof bitumen joints. Cove skirtings are provided for easy cleaning and to enable floors to be washed down.

III. ERECTION AND PRODUCTION

The time studies of the erection of the experimental building were undertaken by the Building Research Station. The result of this important study is that a complete record of working times for each operation is available. This has been the means of providing reliable data for computing costs and has also made it possible to review those items of design on which an excessive number of man-hours was expended, so that they can be re-designed for time-saving in future building.

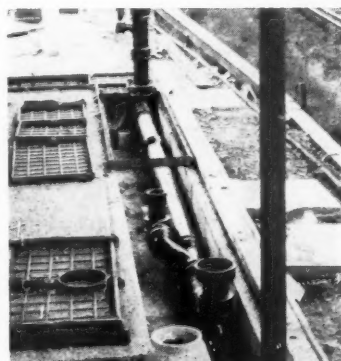
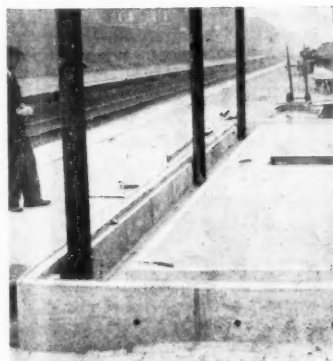
On the whole the existing design is found to be economical in erection. The periods of slow erection on the prototype have in every case been caused by minor faults in design which no way invalidate the main principles and which can be avoided in the future. The main components of the building, the steelwork roof units and walling were erected quickly. The erection of two bays of steelwork took only 50 man-hours. The roof units in two bays, both over the building and the awning, took 90 man-hours. It took only 30 man-hours to assemble a 16 ft. 8 in. run

of walling—the erection of a run of walling provides complete finish including the fixing of all the external and internal panels, felt strips and mastic joints.

The greater part of the assembly work was carried out by a team of three carpenters and one labourer provided by the District Engineer at Watford. The railway company's erectors and fitters came on the site to erect the steelwork and the heating services. The carpenters proved to be in every way suitable for the precision assembly work that was necessary and the experience gained on the Experimental Station should enable teams of skilled workmen to be trained who will be able still further to reduce the time taken in the erection of future stations.

The all-round standard of performance of the building is high and its saving in future heating and maintenance costs is considerable. When these factors are taken into account the cost compares favourably with normal methods, quite apart from all the other advantages which the system provides. It is interesting to note that the proportion of the cost as between materials and labour is approximately 10 per cent. labour to 90 per cent. materials, as compared with 50 per cent. labour and 50 per cent. materials in traditional work.

The building will now be subject to further investigations with a view to examining such matters as comfort conditions, condensation and the amount of cleaning necessary. In the meantime, the use of the system in future building and the methods of securing the most economical means of production can be studied. Some idea of the approach has already been obtained by earlier work on the Company's programme of canteen building which was also described in this JOURNAL and the methods then used seem to justify extension and development.



TWO CONFERENCES ON BUILDING

THE SECOND BUILDING CONGRESS OF THE BUILDING INDUSTRIES NATIONAL COUNCIL, 30 and 31 OCTOBER, 1945

CONFERENCE ON HOUSING OF THE ASSOCIATION OF BUILDING TECHNICIANS, 3 NOVEMBER, 1945

I. THE BUILDING INDUSTRIES NATIONAL COUNCIL

Two conferences on building in one week, both addressed by Ministers of the Crown, are something of an event, even in this era of talking. Although "mere speeches, white papers, laws, regulations and manuals have never made one brick get up on another"—as one speaker acidly remarked—these two conferences did draw some positive statements from Ministers on Government policy, produced some sound working ideas from the technicians of the industry and certainly emphasised the great size and complexity of the problems before us.

The purpose of the B.I.N.C. Congress was "to enable those both in official and private positions to meet and discuss the many problems facing the building group of professions and industries." The chairman was Mr. Howard M. Robertson [F.], President of B.I.N.C. The Congress extended over two days and had an attendance which varied from 1,000 to 1,500.

The Congress was opened by the Archbishop of Canterbury, whose moving speech apparently made an impression even on the tougher and more earthy members. After discussing the appalling housing conditions at present obtaining in many cities, he said that there must be a social urge behind the creative instinct of building to meet at all costs this urgent need. But it was not only houses, but towns and cities which had to be provided. These had to be adapted to the real needs of man. He was glad that the word "neighbourhood" had come back into use. We were not building slabs of human habitations but communities where people might dwell together, built for the whole spiritual and social life of man and his family. He ended by saying, "Build for beauty; and if that is putting it a bit too hard and high, build for a comeliness and simple dignity, for that does really matter. Whether you like it or not, you are going to exercise upon men for a century or more a spiritual influence in the buildings you make."

Building Labour

Mr. Ness Edwards, Parliamentary Under-Secretary of the Ministry of Labour and National Service, read a speech by the Minister, who was unable to be present. He explained at length the arrangements being put into effect for the demobilisation of building labour and for the training of apprentices. He described the Government training centres where an initial training of six months would be followed by a subsequent period of fourteen months of training with an employer. Eleven such centres were now in operation. He was glad that the National Joint Council for the Building Industry had recently reviewed wage rates generally, the grading of areas and the working rules, particularly those relating to "wet time" and lodging allowances. He thought that it was no good trying to force men into an industry, they must be attracted to it.

The remainder of this session was occupied with discussions of matters which were not of particular interest to architects. One speaker, referring to the idleness of trained building workers still in the Services, said: "Can anyone imagine a commander who wants to conduct a successful military operation leaving his trained troops in the barracks and camps peeling potatoes?" Other speakers spoke of the low output of the building operative, which brought forth an impassioned response from Mr. Richard Coppock (General Secretary of the National Federation of Building Trades Operatives). He said, "What are we looking

at? The labour operative. The imponderable in industry. The thing that has been discussed more than any other particular problem of any size. The thing that can be bought like margarine. The thing that can be put on one side, hired and fired in a month. The thing that you wanted to get enthusiastic in the problem of making profit for yourselves, whilst he appreciated that if he had no work he must starve. This, the imponderable, is now asking for a fair deal. In the inter-war period it was no one's concern if there were half a million men unemployed in the building industry. During the twenty years that we built houses, every building trades operative had five years' unemployment. What guarantee have we got now?" He said there must be a balanced programme of building with regular employment, proper organisation and attractive working conditions.

Town and Country Planning

The Minister of Town and Country Planning, the Rt. Hon. Lewis Silkin, said that planning was not a fad or a luxury but a vital part of our national economy. It was, however, still young. A sound and generally understood procedure still remained largely to be built up. The war had, however, altered the whole conception of town planning from permissive to positive.

Not the least important Government action was the setting up of machinery of co-ordination between Government departments who were users of land. It was not an easy matter to solve because there were so many conflicting claims. He advised planning authorities to get ahead as quickly as possible with plans so that they would be able to guide development positively.

Mr. Henry Braddock [A.], deputising for the President R.I.B.A., who was unable to be present, said that planning was still being approached from the wrong end. It had spread from an attempt to deal with slum areas into affairs of towns and regions. There was still a lack of relationship between these areas and the need for a guiding general direction from the top—in other words, a national plan. Planners should never forget that they are not only planning for the use of the land itself, but for its development with building, and that this building (a product of the industry) was the background against which men and women had to live and work. It was a colossal responsibility.

Mr. Thomas Sharp [L.], President of the Town Planning Institute, said that there was an inspiring opportunity to create something fine and new on the ruins of the past. There was, however, a danger that the fine plans might become mere scraps of paper because of an administrative difficulty over the rebuilding payments under the War Damage Acts. It was obvious that for replanning worthy of the name, a great many owners could not possibly be allowed to rebuild on their old sites. The pattern of ownership in old cities was fantastic and chaotic, and was inefficient even for private purposes. The re-allocation of sites was a difficult enough business in any case, but it became quite impossible when re-siting owners were actually penalised for being moved as they were under the War Damage Acts.

The Minister replied to Mr. Sharp that he was well aware of this difficulty and that he had promised the Association of Municipal Corporations to advocate their case on this very point to the Chancellor of the Exchequer who had the last word on the matter.

The Minister of Health

The second day's proceedings were opened by the Mayor of Westminster, Councillor Douglas Wood [F.], who emphasised the need for a national housing policy which should be above party or sectional interests.

The Minister of Health, the Rt. Hon. Aneurin Bevan, who was the chief speaker, said he was not pessimistic about the possibilities of solving the housing problem though he did not underestimate the difficulties. The sooner we solved the housing problem the sooner the building industry could tackle other types of building. It was easy to talk of a building programme but this involved consideration of standards. We knew exactly the numbers of houses required to replace those which had been blighted and to catch up with arrears. Beyond that the extent of the programme depended entirely on the standards they wanted to achieve, in other words, what constituted a slum dwelling. Estimates of total houses needed varied from four million to six million.

The industry could look forward for many years to an expanding building programme. It at least had the guarantee of five years' steady work under the present Government. He was not, of course, suggesting that all other forms of building were to be arrested until four or five million houses had been built.

After discussing output by labour, he said that the whole programme depended upon a progressive reduction in building costs. He did not accept orthodox economics of supply and demand and this was one reason why controls were being retained. He believed that the co-operation of the small building contractor was essential but that without controls the small contractor would get a very meagre share of men and materials.

The Minister explained how he proposed to use prefabrication. The temporary housing programme had been a mistake. Systems of permanent prefabrication were already competing successfully at certain price levels with permanent building. He would use prefabrication where it was economically feasible and he felt it would have a useful influence on the prices of permanent building.

Private Enterprise

Most of the rest of the day was taken up by house-builders and representatives of building societies urging the claims of private enterprise. Mr. E. B. Gillett, President of the Chartered Surveyors' Institution, said that the local authorities' programme could not by itself entirely satisfy public needs. The small country builder should be encouraged because it was through his operations that the rural housing problem could best be solved. He was strongly opposed to unnecessary transportation of labour and materials.

Mr. G. W. Buchanan, President of the National Federation of Building Trades Employers, agreed that the local authority machine was being given too much to do. The job was so big that he did not think the Minister would get the number of houses he required without the private builder. The Minister would be judged not by the system under which the houses were built, but by numbers, cost and speed.

Organisation of the Industry

The chief speaker at the Fourth Session was the Minister of Works, the Rt. Hon. George Tomlinson, who said that, coming new to the job, he had been much struck by the multiplicity

of the organisations which claimed to speak on behalf of the industry. Closer unity of the various sections would, he suggested, not only be good for the industry itself, but make easier the life of Ministers who had to contact it. Looking at the organisation of the industry he had found that out of 72,000 registered building businesses, only 4,500 had twenty or more employees, 15,000 had from four to nineteen employees, 21,000 had one to three employees and there were 32,000 one man businesses. He wondered whether everything had been done that could be done in organisation for efficiency.

After discussing the need for new methods of working, such as the greater use of power plant and small mechanical tools, the need for improving working conditions and welfare, the Minister discussed the relationship of the industry with Government departments. He would like to see not merely arrangements for advice from the industry, but for close collaboration, but it must be realised that the Government would have to stand or fall by the decisions made.

Turning to the question of building materials, the Minister said that this was the second part of his great task. He had been amazed at the number of people who were interested in supplying and manufacturing the things that went into a building. He had recently attended a gathering at which there were 36 associations of an association interested in supplying materials! There were no big problems to be faced but there were an infinite number of little problems, the solution of which would eventually solve the whole problem.

The Minister ended by discussing briefly the work of the department of the Chief Scientific Adviser. This department gave advice not only to Ministers but also to the industry on all phases of the research work needed in connection with building.

Some Key Facts

The Congress was closed with a good summarising speech by Mr. Alfred Bosson, M.P. The Minister of Labour had said that 1,100,000 men would be in the building industry by next June. Yet there were about two million redundant men in the Forces to-day of which approximately half a million had been connected with the building trades. There were approximately 14,000 architects, surveyors and other building technicians in the Forces. For 152 building trade operatives, one architect was required and he was required before the operatives were. We might have unemployment in the building industry if we were not very careful. Mr. Aneurin Bevan had stressed the importance of getting out the key men, but it had been Mr. Ernest Bevin, as Minister of Labour in the last Government, who had refused to release them.

It was good that there was to be a consolidating Act for all Town and Country Planning legislation. Why should there not be a similar Act for all building regulations? Why should there not be a reduction in the number of consents and licences? His suggestion was "One house, one permit." At present it took many months—even a year—before you could start to build a house.

Finally, a real effort must be made to obtain a balanced programme. Housing must have first priority but there must also be factories and offices for the men to earn their living. There must be shops for the sale of food. No housing estate could be successful without schools, churches and meeting halls.

II. THE ASSOCIATION OF BUILDING TECHNICIANS

The Conference of the Association of Building Technicians, held on the afternoon and evening of Saturday, 3 November, was bright, sparkling and enthusiastic. The Minister of Health, again the chief speaker, seemed to suit his manner and his matter to the younger average age of his audience and to be conscious of the fact that he was addressing a trades union. He began by saying he had heard there was a shortage of building technicians but that he was reassured by the presence of so large and crowded a gathering drawn from all parts of the country.

Much as he wanted to use traditional methods of building, he believed that to confine attention solely to it would be a great mistake. But if prefabrication were to succeed and to satisfy human needs, we should have to find a system flexible and fluid enough for the architect to handle. He thought that some systems of semi-prefabrication would prove more successful than had been thought. These systems had the advantage that the small building contractor could use them. This would be of great service in solving the housing problem in rural areas.

One of the practical problems with which the Government was faced was to build houses in rural England in clusters of anything from ten to a hundred, and to do it quickly.

The ingenuity of people in the building world had produced many interesting experimental designs of prefabricated houses which had individual merits and disadvantages. He thought they would show greater possibilities if they were all examined together and not in isolation. He had therefore appointed a small working party under the chairmanship of Professor J. D. Bernal to do this.

Flats in the Country

We had to try to make a revolutionary departure in housing. We had somehow to find a way of avoiding urban sprawl and of associating the amenities of the countryside with those of urban life. It ought to be possible for the citizen to stroll casually to the civic centre in half an hour. One of the bad by-products of urban sprawl was the increasing neutrality of the citizen which was a highly dangerous thing in a modern community. There were overwhelming arguments in favour of at least experimenting with high buildings in the countryside. He knew that some French experiments on this had proved disappointing. He knew also that very large numbers of working-class people had had their attitude towards flats poisoned by tenement dwellings. He would be told that this would destroy the beauties of the countryside because high dwellings would dominate the scene. He did not agree that scenery was spoilt by church towers or castles. On the contrary, high buildings could be an adornment to the countryside if they were aesthetically correct.

Another purpose behind this idea was to take some of the housework out of individual homes and make them communal so that women could continue to work in industry if they wished to, or to have other activities. He was therefore going to persuade one or two of the great cities to become foster parents of experimental schemes of clusters of high buildings with the countryside around them.

The Ministry of Health had always, though not perhaps with sustained emphasis, placed a great deal of importance on the

employment of the architect. He was appointing a very distinguished architect to the Ministry of Health. One of their difficulties had been to persuade local authorities to employ architects. There was, however, quite a dearth of architects in some parts of the country and indeed of building technicians such as surveyors, costing clerks and clerks of works. In what had been called the depressed areas, there had been a terrible denudation of technicians in the last twenty years.

On the question of housing standards, the Minister said: "I have determined that for the three-bedroomed house there shall be no lower standard anywhere in Great Britain than good superficial feet, and that is a minimum . . . We ought to try to build the kind of house in the next few years that we are going to be proud to look at after the next twenty. . . . I refuse to take the view that because we have to build houses in an emergency, the well-being and health, both spiritual and material, of the lower income groups should be sacrificed."

After Professor Sir Charles Reilly had proposed a vote of thanks to the Minister, Mr. Colin Penn, National Organiser of A.B.T., gave a brief outline of the responsibilities of technicians and the aims of the Association. He agreed that housing should be in the hands of local authorities but he wanted to see the conditions of local authority employment improved. They should have the pick of the country's building technicians, but the atmosphere of many of their offices was rather deadly and working conditions and pay were not all they should be.

Beauty

Mr. Frederick Gibberd startled the Conference by saying he was going to talk about "that old-fashioned subject, beauty." He had been looking at a housing proposal which had no technical faults at all, but the whole effect was dull and soulless. The houses had been designed to the recommendations of all the very latest reports. There was plenty of thought but no feeling. Housing was much too rigid. Instead of semi-detached houses, all of the same size, there should be a mixed development of all kinds of buildings, of all sizes and heights. There should be greater emphasis on texture and colour which were almost lost arts in architecture.

PRACTICE NOTES

EDITED BY CHARLES WOODWARD [A.]

WAR DAMAGE

Value Payments, Val. 5

The War Damage Commission have again called attention to the fact that many recipients of form Val. 5 have not returned this form to the Commission, and that less than half of the forms issued have so far been returned.

Val. 5 is the Commission's *provisional* valuation and is issued with the object of giving claimants an opportunity of either agreeing or disagreeing with the figures. In the event of disagreement negotiations with the District Valuer are open to claimants, and if adjustment can then be agreed a formal appeal to a referee is thus avoided. Such negotiations do not prejudice a claimant, and if agreement is not reached, it is still open to claimants to lodge an appeal within 60 days of the issue of the Commission's *final* determination of the value payment.

The Commission point out that delay in returning the form may result in consequent delay in the making of final payments, as the work of dealing with these claims is planned on a geographical basis. Objections will therefore be dealt with immediately the number of submissions from a given area renders this practicable on an economic scale, and claimants who have not returned the form may have to await for a later opportunity to have their cases discussed.

Any settlement reached will not affect a possible right to an increased payment or an alteration in the kind of payment should any be decided upon at a future date.

BUILDING REGULATION

The following Bills are now before Parliament, and as soon as they become Acts will be further referred to in these Notes.

A Bill to suspend certain provisions of the Civil Defence Acts 1937 and 1939. The provisions proposed to be suspended relate,

amongst other things, to air-raid shelters in factory premises and commercial buildings.

A Bill relating to works on land carried out during the war period and the use of land begun during that period, which do not comply with building laws or planning control.

A Bill to provide for the transfer, to a tribunal to be established for that purpose, of jurisdiction to determine appeals and references which under Section 32 of the War Damage Act 1943, may be made to a referee.

A Bill to make financial provision for the purpose of facilitating the production, equipment, repair, alteration and acquisition of houses and other buildings, and to make provision for limiting the price for which certain houses may be sold and the rent at which certain houses may be let.

A Bill to amend the law relating to Trunk Roads and for purposes connected therewith.

Water Supply and Sewerage Schemes

Circular 67, dated 12 November 1945, addressed by the Ministry of Education to Local Education Authorities, points out that Section 28 of the Water Act 1945 requires local authorities to provide a supply of wholesome water in pipes to every part of their districts in which there are houses or schools, and to take the pipes to such a point as will enable the houses and schools to be connected at a reasonable cost. The local authority cannot be required to do anything which is not practicable at a reasonable cost.

The Minister of Education hopes that these provisions will be borne in mind by local education authorities, and that, as labour and materials become available, every effort will be made to ensure that the needs of the schools will be met where practicable, especially in rural neighbourhoods.

Under the Rural Water Supplies and Sewerage Act 1944, the

Minister of Health may make grants to assist schemes for the provision or improvement of water supply and the provision of sewerage facilities in rural localities. The attention of local authorities was drawn to this Act in Circular 119/44 dated 2 September 1944, addressed to them by the Ministry of Health.

TOWN AND COUNTRY PLANNING

New Main Roads (Maps)

In reply to a question the Minister of War Transport replied that he had already placed in the Library a map showing the existing trunk roads, the roads which it is proposed, in the Trunk Roads Bill, to add to the trunk road system and the classified roads. He added that as it is not possible at present to determine when any particular by-pass will be constructed, it would not be of value to show such roads on a map for the public use. (6 November 1945.)

HOUSING

Permanent Housing Programme

By a Circular 200/45 dated 15 November 1945, addressed by the Ministry of Health to all housing authorities in England, it is stated that the Minister has been reviewing the standards to be adopted in the planning of houses.

In a previous Circular 128/44 it was stated that 800 to 900 sq. ft. would be appropriate for a three-bedroom house for five persons. The Minister is of the opinion that 900 sq. ft. should be regarded as a minimum for this type of house, and that 900 to 950 sq. ft. is an appropriate range. Other types of houses should be planned on a proportionate scale. These are the full standards recommended in the Dudley Report on the Design of Dwellings.

The Minister considers that a second water closet should be provided on the ground floor in three-bedroom and larger houses, either inside or outside the house and with a covered way, if outside. The upstairs water closet can then be combined with the bathroom, so making this apartment larger.

Plans in an advanced stage of preparation based on the old standards should go forward, but all new plans should be based on the above improved standards.

The Minister stresses the importance of reducing the high cost of building, but indicates that this should not be done by reducing the accepted standards of accommodation or by omitting equipment and fittings essential to the comfort and efficiency of the house. He is relying upon reduction in the cost of building materials and upon increased efficiency and output to bring about reduction in building costs, and considers that tenders in open competition would produce more satisfactory results.

Conversion of Housing Accommodation to Non-Residential Purposes

By an Order in Council dated 30 October 1945, housing accommodation which has been used for residential purposes at any time since 31 December 1938, may not be used for purposes other than residential except with the consent of the local housing authority.

Accommodation used for any purpose at the coming into operation of the Order by the person so using it is unaffected by the Order, as is also a person who is the partner or successor in a trade or business of a person who was using the accommodation for that trade or business at the date of Order. Accommodation used by a person residing in the building is also excepted from the terms of the Order.

In the case of the use of accommodation by Government Departments, the Minister of Health is substituted for the reference to the local housing authority.

Any person aggrieved by the refusal of the local housing authority to grant consent under the Order may appeal to the Minister of Health within 28 days.

The Order applies to Scotland, but not to Northern Ireland. (S.R. & O. 1945, No. 1361, Emergency Powers (Defence) General Regulations.)

By a Circular 192/45 dated 7 November 1945, issued to all housing authorities by the Ministry of Health, it is pointed out that "housing accommodation" under the Order means any building or part of a building originally constructed for residential purposes, whether or not subsequently adapted for other purposes, or a building originally constructed for some other use and subsequently adapted for residential purposes. "Residential purposes" includes hotels, hostels, boarding houses, and lodging houses, as well as houses and flats.

British Standard Specifications

In a Circular 211/45 dated 29 November 1945, the Minister of Health refers to British Standard Specifications in relation to housing

programmes of local authorities. A list of such Standards is attached to the Circular, and the Minister states that in all future housing these Standards should be obligatory. There are special circumstances mentioned in which it will not be possible to conform to the Standards and the Circular should be referred to for these exceptions.

MATERIALS SUPPLY

Timber for New Dwellings

In a Circular, 205/45, dated 23 November 1945, the Minister of Health states that it has been decided that the maximum amount of timber to be allowed for new dwellings erected by local authorities is:—Softwood, 2 standards per 1,000 ft. sup. floor area.

Plywood, 450 sq. ft. per dwelling.

Hardwood, 10 cu. ft. per dwelling.

A 10 ft. length of close boarded hardwood fencing not exceeding 6 ft. in height will be allowed in order to give privacy. Hardwood fence posts will also be allowed for site enclosure.

AIR-RAID SHELTER REMOVAL

Removal of Air-Raid Shelters in Factory and Commercial Buildings

Existing air-raid shelters or structural measures for the protection of plant or production may be removed, if so desired, as and when labour can be made available for the purpose, and subject to any necessary building licence being obtained.

In factory buildings where a building licence is necessary, form C.L.136 should be submitted to the Government Department principally concerned with the current production of the factory, in order that the Department may give the application their support, if the proposed work is urgent and essential. If the work is to be carried out by the occupier's own labour, this should be stated on the application form.

Shelter and other structural precautions on commercial buildings provided for persons working or living there may also be removed, subject to any necessary building licence being obtained.

There is no provision in the Civil Defence Act, 1939, for any Exchequer grant towards the cost of the removal of shelters erected under Part 3 of the Act.

The owner of the premises may retain any timber from shelters and other structures. He can use the timber subject to obtaining a licence from the Timber Control Area Officer, or he may sell it to a purchaser with a Timber Control licence.

Iron and steel from shelters and other structures which is not Government property may be sold by the owner to anyone holding an authorisation to acquire such material, to a licensed stock-holder or to a licensed scrap merchant. The price must not exceed the maximum in force at the time of the sale. In cases where materials are Government property, they will be disposed of by the surplus stores organisation of the Ministry concerned with the administrative matters of the factory or establishment.

The disposal of asbestos cement sheet requires the permission of the Director of Roofing, Ministry of Works.

Air-Raid Shelters (Removal)

Asked what steps it is proposed to take to remove domestic surface shelters erected by local authorities in gardens of private houses, the Home Secretary replied that it is intended eventually to remove such of these shelters as are not purchased by the householder for use *in situ* for peace-time purposes, but it will probably be some considerable time before labour can be spared for the work. (8 November 1945.)

Iron Railings (Replacement)

In reply to a question the Minister of Works said that the Government does not propose to accept any general responsibility for the replacement of railings collected for war purposes, nor to make any contribution in addition to the compensation payable, to cover the cost of any railings that owners or occupiers of land may decide to replace. (13 November 1945.)

MR. J. H. FORSHAW [F.] CHIEF ARCHITECT TO THE MINISTRY OF HEALTH

The Minister of Health has appointed Mr. J. H. Forshaw, M.C. [F.] as Chief Architect to the Ministry. Mr. Forshaw has been Architect to the London County Council since 1941. He takes up his appointment on 1 January.

REPORT ON STAINS IN STONEMWORK

Prepared by the Institution of Structural Engineers Brickwork and Masonry Sectional Committee and published at the request of the Architectural Science Board General Purposes Committee.

At the outbreak of war the collected information had been largely prepared for presentation to the Science Committee. Unfortunately a large amount of the data, including the photographs and the draft report prepared by the Chairman, were destroyed by enemy action. A further great loss was sustained by the death of Mr. Warnes, the Chairman of the Panel. With the difficulties of the war period and the very considerable setbacks experienced, the work has been suspended.

The Panel held over thirty meetings, collected information and continued observation on many buildings in London and other parts of the country, and did much experimental work. This latter was carried out on a number of stone panels exposed to the weather, some having R.S.Js. embedded, and upon small laboratory specimens both singly and in pairs. Over 200 specimens were used. Many photographs were taken.

A. EXPERIMENTAL WORK

Specimens upon which work was carried out.

1. Four Portland stone panels 2 ft. 6 in. wide and 2 ft. high built in three courses with Bath stone coping. Mortar used:

- (a) one part Portland cement, four parts stone dust.
- (b) one part white Portland cement, four parts stone dust.
- (c) one part blue lias lime, three parts stone dust.
- (d) one part grey stone lime, three parts stone dust.

2. Three Portland stone panels with brick backing. Bricks used. Flettons in P.C. mortar 5-1.

- (a) Mortar in direct contact with the stone.
- (b) Back of stone treated with bitumastic paint.
- (c) Back of stone with screed of $\frac{1}{2}$ -in. 3-1 lime mortar.

3. Four Portland stone panels with embedded R.S.J.

4. Small prisms (1 in. by 1 in. by 3 in.).

- (a) Standing in distilled water to $\frac{1}{4}$ -in. depth.
- (b) Standing in moist sand.
- (c) Standing in moist sand with CO₂.
- (d) Standing in distilled water containing iron rust.

5. Fourteen specimens of artificial stone as in (4).

6. Twenty-four specimens of artificial stone cemented in pairs.

7. Eighteen specimens 6 in. by 1 in. by 1 in., of Monks Park, Corsham Down and Portland Stones.

- (a) Standing in 0.5 per cent. solution of sodium carbonate.
- (b) Standing in 0.1 per cent. solution of ferrous sulphate.
- (c) Standing in distilled water.

Some were coated with bituminous backing, others not.

8. A large number of specimens of Box Ground, Corsham Down and Storeton, and other stones were treated in a similar manner, and many tests were carried out with different types of stones set together, so that stains and soluble salts could pass from one type of stone to another.

B. CONCLUSIONS AND RECOMMENDATIONS

1. There is a substance contained in many natural limestones, and in some sandstones, which stains the stone a light brown colour, and is capable of doing so without extraneous staining material: in other words, the stone is self-staining. The stain becomes darker in the presence of alkaline substances such as lime and soda.

2. This staining substance in stone is soluble in water, and in organic solvents. In accordance with the movement of the water in which the staining material is dissolved, stains may disappear from one place and then appear in another, moving in general to those parts of the stone where evaporation is greatest.

3. The aqueous extract from stone taken from a building was found to contain:—

- (a) Organic material natural to the stone.
- (b) Organic material derived from soot.
- (c) Finely divided free carbon from soot.
- (d) Other staining materials.

4. The efflorescence frequently present on stone is caused by the crystallisation of certain soluble salts. These may have been contained in the stone when laid, they may be decomposition products, or they may enter the stone from backing, mortar or soil. Efflorescence is most marked at places where evaporation is most rapid, such as arrises. Some types of efflorescence may cause decay as well as staining.

5. Care must be taken that the ground level is never raised above the damp proof course.

6. Sufficiently steep weathering, or efficient flashings, should be provided to throw off water from projections; adequate drips are needed to avoid the formation of streaks by water running down vertical faces.

7. Stone of adequate thickness should be used. The present-day tendency to reduce the thickness of stone facings accentuates the liability to staining from backing or from steelwork, unless the stone is properly protected.

8. A bituminous or other suitable backing may be used on all sides of stone blocks except the face. Care must, however, be taken with the pointing, since moisture may creep either through the mortar or over its surface.

9. Porous mortars will absorb staining material from the stone. In experiments carried out for the investigation, it was found that in nearly all cases where a weak porous mortar was used, stains and efflorescence formed on the mortar. This may be an advantage, for if the efflorescence causes surface disintegration, it will be easier to replace the mortar than the blocks of stone.

10. Foreign matter left behind stone facing is liable to cause stains.

11. Iron compounds frequently act as staining material. Water containing carbon dioxide in solution will dissolve rust to form a clear solution which is capable of travelling through stone and producing strong iron stains several inches away from the point of contact with the rust. Iron stains may also originate from compounds of iron in building sand used in mortar.

12. Unsightly stains are frequently produced by surface washings from metal or timber.

13. Stains caused by fumes have been noticed on exterior walls. Uneven heating of walls such as is caused by hot water pipes and radiators inside a building, adjacent to an outside wall, may cause discoloration of the outside face by carbonaceous matter from the atmosphere.

14. Reconstructed stone made with porous aggregates stains more readily than those made with non-porous aggregates.

15. The use of sand with cement for bedding reconstructed stone, though a very common practice, is not advisable. It is preferable to bed both reconstructed stone and natural stone with a very fine mortar or putty made with stone dust obtained from the same or similar stone, and lime or cement.

16. That certain large stone-faced buildings are being regularly cleaned with plain water is regarded as an important advance in present-day practice for the preservation of the stone. The work of cleaning may be expensive, but it is considered that the cost is fully justified. The work should be properly supervised; only clean water, cold or hot (as in steam cleaning) should be used. The use of chemicals and steel wire brushes should not be permitted.

Accessions to the Library

1945-46—I continued

ARCHITECTURE (DOMESTIC) concluded

REVERE COPPER AND BRASS Incorporated, New York

A Higher living standard at lower cost. [Plank Panel house. By Cass Gilbert, jr.] Inf. file 728 : 693.061 PP.

GONZENBACH (W. VON) 9". 11 pp. [New York. c. 1944.] Presented. 728 : 696/699

Gesundes bauen, gesundes wohnen. 8". 196 pp. text diag. Zürich : Schulthess. 1934. Presented through the British Press Attaché, Berne. 728.036.6 (494)

ARTARIA (PAUL) Vom bauen und wohnen. Ein bilderbuch &c. 2nd ed. 9½". 167 pp. incl. pls. text illus. Basle : Wepf. 1944.

Original ed. 1939 in Library. Presented by the British Press Attaché, Berne. 728.095.1

REVERE COPPER AND BRASS Incorporated, New York

Better homes for lower incomes. [Dymaxion (domical) houses. By Buckminster Fuller.] 9". [New York. c. 1944.] Presented. 728.1

AMERICAN PUBLIC HEALTH ASSOCIATION : COMMITTEE ON THE

HYGIENE OF HOUSING An Appraisal method for measuring the quality of housing : a yardstick &c. Pt. 1. Nature and uses of the method. 9". vi + 71 pp. incl. pls. text diag. New York. 1945. R.

WOMEN'S ADVISORY HOUSING COUNCIL, London 728.1 (06) : 396

Report and statement of accounts. [On] 1944. 8". Lond. : at Housing Centre. [1945.] 6d. Presented. 728.1 (41.1).012

SCOTLAND : DEPARTMENT OF HEALTH FOR SCOTLAND

*Post-war housing. Approved house designs prepared for the D... by the Royal Incorporation of Architects in Scotland. 9½". unpagd. (43) pp. incl. pls. text illus. n.p. [1945.] Presented by the Department (3). 728.1 (42)

BOWLEY (MARIAN) *Housing and the state 1919-44. 8½". viii + 283 pp. text diag. Lond. : Allen & Unwin. 1945. 15s. R. & P.

MINISTRY OF HEALTH Inf. file 728.1 (42)

Housing. Licensing of housing work by private persons. (Circular 146/45.) leaflet. dupl. typescript. 8½" x 7". 1945. R.

Housing for men in H.M. Forces. (Circular 109/45.) Inf. file 728.1 (42) : 355.24

Temporary houses. Use of German prisoners of war. (Circular 124/45.) dupl. typescript. 8½". 1945. R. (2).

Inf. file 728.1 (42) : 69.037.1

leaflet dupl. typescript. 8½". 1945. R.

Temporary houses. (Circular 143/45.) [Notes for tenants.] Inf. file 728.1 (42) : 69.037.1

leaflet dupl. typescript. 7". 1945. R.

Enclosing T—h—, Circ. 143 [form of application for copies of text], 6½". Notes for the tenants, &c., 8½".

GREAT BRITAIN : PARLIAMENT—ACTS 728.1 (42) : 69.037.1] 712.21

Housing (Temporary Accommodation) Act, 1945. (8 & 9 Geo. 6. Ch. 39.) ... to authorise the use of open space during a limited period, &c.

leaflet. 9½". Lond. : H.M.S.O. 1945. 1d. Presented.

MINISTRY OF HEALTH Inf. file 728.1 (42) : 69.037.3 + 72.083.2 : 728.1 (42) + 72.089

Permanent house programme. (Circular 118/45.) (20 June.) [Including conditions of contract, para. 9.] leaflet. dupl. typescript. 13". 1945.

Enclosing P—housing programmes. Information which should accompany a tender... (Memo. 289), 8½", and M. of W. [list of Regional Allocation Officers], 13".

Permanent house programme. (Circular 152/45.) (15 Aug.) Inf. file 728.1 (42) : 69.037.3

leaflet. dupl. typescript. 8½". 1945. R.

Preparation of housing sites. Use of German prisoners of war.—

Housing revenue account. (Circular 106/45.) leaflet. dupl. typescript. 13". 1945. R.

With Advance preparation... Programme of work (MOW/POW/5a), and M— of Works forms of contract as agreed with the M— of H—, &c. (MOW/POW/5).

[Same titles.] (Circular 106 A/45.) leaflet. dupl. typescript. 8½". 1945. R.

Inf. file 728.1 (42) : 69.051.22 + 728.1 (42) : 693

1. Preparation of housing sites. 2. Slabbing for temporary houses. Use of German prisoners of war. (Circular 151/45.)

leaflet. dupl. typescript. 8½" x 7". 1945. R.

Inf. file 728.1 (42) : 69.051.22] 712.21

Temporary houses. Use of open spaces. (Circular 114/45.) leaflet. dupl. typescript. 8½". 1945. R.

Inf. file 728.1 (42) [69.895 : 72.025.1] 728 : 69.059.2

Co-ordination of housing work. [London Civil Defence Region. War damage repair and general housing programme.] (Circular 144/45.) leaflet. dupl. typescript. 8½" x 7". 1945. R.

Inf. file 728.1 (42) : 728.1

Technical assistance for housing. (Circular 119/45.) [Lists of architects, engineers and surveyors.] leaflet. dupl. typescript. 7". 1945.

With [MINISTRY OF WORKS] List of architects available &c., Region 1, —2, —3, —4, —6, —7, —8, —10, —12 (Enclosure to Circ. 119/45), each 13", [1945].

Inf. file 728.1 (42) : 72.083.121

Submission of tenders for the erection of houses and flats. (Circular 104/45.) leaflet. dupl. typescript. 7". 1945. R.

With (Enclosure...). Permanent housing programmes. Information which should accompany a tender &c., (Memo. 289 Housing), 8½" x 7".

Inf. file 728.1 (42) : 72.089 + 728.3 [72.08 : 347.234.1

Housing. Extension of certain functions of local authorities.—i. Licensing of housing work by private persons. ii. Requisitioning of unoccupied houses. iii. Conversion or adaptation of unoccupied houses. iv. Local co-ordination of housing work and programmes. (Circular 138/45.)

leaflet. dupl. typescript. 12½". 1945. R.

With 7 enclosures, var. sizes. Inf. file 728.1 (42) [728.1 : 693.061 (485)

Permanent housing. Swedish timber houses. (Circular 122/45.) leaflet. dupl. typescript. 8½" x 7". 1945. R.

Enclosing S—t—h—, 13". Inf. file 728.1 (42) [728.1 : 693.061 (73)

U.S.A. temporary houses. (Circular 115/45.) leaflet dupl. typescript. 8½". 1945. R. (2).

Inf. file 728.1 (42) [728.86 : 69.071.5

Building of houses by private builders. (Circular 125/45.) leaflet, dupl. typescript. 13". 1945.

Enclosing MIN. OF WORKS, Control of civil building, ... Application, &c.

MINISTRY OF WORKS Inf. file 728.1 (42) [728.86 : 69.071.5 + 72.089

Control of civil building. Defence regulations 56A. Application for building licence for small dwelling. leaflet. 9½". [1943.]

Enclosed in M. of H., Building of houses, &c.

Inf. file : 728.1 (42.16 W) + 728.1 : 693.061 H

Erection of development group of Howard houses at Woolwich.—Work starts on first group of permanent prefabricated houses. (Press notices.)

leaflet dupl. typescripts. 6½" x 8", 13". 1945.

With 915 sq. ft. house, Howard house type B, sheet of plans repr. Press notices not normally catalogued.

WATES, Ltd., firm Inf. file 728.1 (42.21 Su) + 728.1 : 693.061

The 'Wates' house, cover title : [Precast r.c. ; specimens at Sutton Common Road, Sutton.] ob. 8" x 10½". [Norbury. 1945.] R.

Inf. file 728.1 (71)

CANADA : WARTIME INFORMATION BOARD, Ottawa

Canadian affairs, journal, Canadian edn. : [Special issue :] Vol. 2, No. 7. A place to live. By Hazen Sise.

7½". 19 + (iv) pp. (incl. covers). text illus. [Ottawa.] 1945. R.

- TWENTIETH CENTURY FUND, New York** 728.1 (73)
American housing: problems and prospects. The factual findings.
By Miles L. Colean. The program. By the Housing Committee.
Reprint. 9". xxii + 466 pp. text diag.
New York: the Fund. 1944. (£3.00.) P.
728.1 (73) N.H.A. box
728.1: 016
- U.S.: NATIONAL HOUSING AGENCY—FEDERAL PUBLIC HOUSING
AUTHORITY: PROPERTY AND ADMINISTRATIVE SERVICES
DIVISION, LIBRARY**
A selected list of references on housing for the use of teachers and
students. Compiled by Elizabeth L. Carey.
dupl. typescript. 10½". 1945. R.
- COX (BERNARD H.)** 728.1: 693.061
Prefabricated homes. (Association of Building Technicians.)
7½". 36 pp. + (16) pls. (backed).
Lond.: Paul Elek. [1945.] 2s. R.
Inf. file 728.1: 693.061
- LUTYENS (ROBERT)** 728.1: 693.061
Prefabrication and revolution. With a note on town planning.
(From [New English Review], Sept.)
extract. 9½". 1945.
Inf. file 728.1: 693.061 Br (085)
+ 728.1 (42.19 Wat)
- BRAITHWAITE & Co.**
Prefabricated permanent homes by Braithwaite. (Catalogue No. H
1945.)
2nd ed. ob. 8" × 10½". 20 pp. text illus. [Lond. 1945.] R.
MINISTRY OF HEALTH Inf. file 728.1: 693.061 691.771
Aluminium temporary house. (Circular 149/45.)
leaflet. dupl. typescript. 7". 1945. R.
Enclosing **MINISTRY OF WORKS**, Temporary houses. Aluminium
house, q.v.
- MINISTRY OF WORKS** Inf. file 728.1: 693.061 691.771
Temporary houses. Aluminium house.
leaflet. 8½" × 10". 1945.
Enclosed in M. of H., A. — t — h —.
- MINISTRY OF HEALTH** Inf. file 728.1: 72.083.123
Bills of quantities for housing work. (Circular 149/45.)
leaflet. dupl. typescript. 8½" × 7". 1945. R.
728.1: 72.096.32
- AKADEMIIA ARKHITEKTURY S.S.S.R.: INSTITUT ARKHITEKTURY
MASOVYKH SOORUZHENII**
Vybor tipa maloi tzhnogo zhilogo doma [houses with few storeys].
[By] P. N. Blokhin.
10". 75 pp. (sticker on p. 75).
Moscow: Izdatel'stvo Akademii, &c. 1944.
Presented through the British Council.
Inf. file 728.1: 728.68 (42.74)
- YORKSHIRE RURAL COMMUNITY COUNCIL**
Report on rural housing in the county of Yorkshire.
8½". 11 pp. York. 1944. R.
- GREAT BRITAIN: PARLIAMENT—ACTS** 728.1: 728.68] 34
Housing (Rural Authorities) Act, 1931. ([21 & 22 Geo. V. Ch. 39.])
(... extracted from an annual volume of public general Acts, &c.)
9½". 6 pp. Lond.: H.M.S.O. [1931 or later.] 1d.
Presented.
Housing (Rural Workers) Act, 1942. (5 & 6 Geo. 6. Ch. 32.)
leaflet. 9½". Lond.: H.M.S.O. 1942. 1d. Presented.
Housing (Rural Workers) Amendment Act, 1938. (1 & 2 Geo. 6.
Ch. 35.)
9½". i + 10 pp. Lond.: H.M.S.O. 1938. 2d. Presented.
- REVERE COPPER AND BRASS Incorporated, New York**
Inf. file 728.23: 696.92
Apartment homes for tomorrow's better living. [By W. B. Sanders.]
9". 11 pp. [New York. c. 1944.] Presented.
Inf. file 728.25: 711.385
Uplifting the downtrodden. [By William Lescage.]
9". 14 pp. [New York. c. 1944.] Presented.
728.67: 696.6 (085)
- CALLENDER'S CABLE AND CONSTRUCTION Co. Ltd.**
Electro farming with Callender cables. (Publ. No. 133.)
8½" × 6½". 63 pp. + double pl. text illus. Lond. 1944. R.
Callender Farm wiring system. (Publ. No. 140.)
8½" × 6½". 64 pp. text illus. Lond. 1945. R.
- KISSLING (WERNER)** Inf. file 728.69 (41.17) index
House traditions in the outer Hebrides. The black house and the
beehive hut. (From Royal Anthropological Institute of Gt. Brit. and
Ireland, Man, a journal &c., 1944, No. 114.)
11". (7) pp. Lond. [1944 or —45.] Presented.
- AKADEMIIA ARKHITEKTURY S.S.S.R.** 728.84 (47) O
Ostankino [country house group near Moscow]. [By] K. A. Solov'ev.
Sokrovishcha Russkogo Zodchestva [treasures of Russian archi-
ecture] series.)
6". 64 pp. incl. (31) pls.
Moscow: Izdatel'stvo Akademii, &c. 1944.
Presented through the British Council.
- REVERE COPPER AND BRASS Incorporated, New York** 728.86
Livable homes for those who love living. [By Fritz B. Burns.]
9". 14 pp. [New York. c. 1944.] Presented.
The Living kitchen where drudgery is banished. [By J. G. Lippin-
cott.]
9". 17 pp. [New York. c. 1944.] Presented.
- MINISTRY OF WORKS: LIBRARY** Inf. file 728.93.1
Bibliographies:
No. 4. Kitchen design and equipment: &c.
leaflet. dupl. typescript. 8½" × 7". 1945. Presented by the Library.
69 (083.74) boxes
728.933.2: 691.49.
- BRITISH STANDARDS INSTITUTION**
B.S.:
1206: Fireclay sinks &c.
Lond. 1945. 2s. R.
- DECORATION, FITTINGS**
MILLER (DUNCAN) 729.1.098
Interior decorating. ("How to do it" series, No. 13.)
Reprint. 9½". 77 (79—2) pp. incl. pls. (mounted). text illus.
Lond. & N.Y.: Studio Pubns. 1937 (1944).
Transferred from Prisoners of War Book Scheme.
(series) 902.5 (42.61) (06) (05)
NORFOLK RECORD SOCIETY shelves 729.9: 929.6] 726.54 (42.61)
Volumes:
xvii: A Miscellany, comprising Post-Reformation Royal Arms in
Norfolk churches, &c.
10". n.p. 1944. Presented by the Society.
- ALLIED ARTS** Inf. file 7137
- ADAMS (HERVEY)**
Art and everyman. ... part played ... in our daily lives. (Council
for Education in Appreciation of Physical Environment.)
7½". 32 pp. Lond.: Batsford. 1944. 1s. R.
- REILLY (Sir C. H.)** Inf. file 7137
Architecture as a communal art. (Council for Education in Apprecia-
tion of Physical Environment.)
7½". 16 pp. Lond.: Batsford. 1944. 6d. R.
- BRITISH STANDARDS INSTITUTION** 69 (083.74) boxes
B.S.: 7.018 (083): 698.1
381 WD: ... Flat colours for wall decoration.
7". folded card. Lond. 1945. 6d. R.
- ZARNECKI (JERZY)** 7.03 (438)
Polish art.
8½". 48 pp. text illus.
Birkenhead: Polish Pubns. Committee. 1945.
Presented by the Author.
- BUENOS AIRES: ACADEMIA NACIONAL DE BELLAS ARTES** 7.03 (82)
Documentos de arte Argentino.
Cuaderno [vol.] viii, xvi. 10½". Buenos Aires. 1943.
Presented by the Academy, through the British Council.
Cuaderno viii: La región Andina y del Tucumán.
Cuaderno xvi: Región de Cuyo.
- DEVAMBEZ (PIERRE)** 7.032.8
Le Style grec. (Arts, styles et techniques series. Norbert Dufourcq,
gen. ed.)
123 pp. + xlviii pls. (backed). Paris: Larousse. [1944.]
- CHAPOT (VICTOR)** 7.032.7
Les Styles du monde romain antique. (Arts, styles et techniques
series.)
144 pp. + xlviii pls. (backed). Paris: Larousse. [1943.]
- LEMERLE (PAUL)** 7.033.2
Le Style byzantin. (Arts, styles et techniques series.)
131 pp. + xlviii pls. (backed). Paris: Larousse. [1943.]
- BRÉHIER (LOUIS)** 7.033.4
Le Style roman. (Arts, styles et techniques series.)
125 pp. + xlviii pls. (backed). Paris: Larousse. [1942.]

VERLET (PIERRE) 7.034 (44)
Le Style Louis XV. (Arts, styles et techniques series.)
154 pp. + xlviii pls. (backed). Paris :
Larousse. [1942.]

All presented by Mr. George Atkinson [A.].

GLOM (JOHN) 749 : 684 (42) : 92
British furniture makers. (Britain in pictures. The British people
n pictures, series. W. J. Turner, gen. ed.)
8 $\frac{3}{4}$ " 48 pp. + 8 pls. (backed). text illus. Lond. :
Wm. Collins. 1945. R.

MERIVALE (MARGARET) 749 : 728.86
Furnishing the small home.
2nd ed. 9 $\frac{3}{4}$ " 112 pp. incl. pls. Lond. : Studio. 1943. 9s.
Transferred from Prisoners of War Book Scheme.

DACIER (ÉMILE) 76 (44)
La Gravure française. (Arts, styles et techniques series.)
183 pp. + xlviii pls. (backed). Paris :
Larousse. [1944.]
Presented by Mr. George Atkinson [A.].

BUILDING

WARLAND (E. G.) 69
*Building construction for national certificate.
Vol. i, 2nd ed. ; vol. ii, 2nd ed.

each 8 $\frac{1}{2}$ ". Lond. : English Univs. Press. 1943.

Transferred from Prisoners of War Book Scheme. To Loan Library.
First eds. in Reference and Loan Libraries.

MITCHELL (C. F. and G. A.) 69

Building construction and drawing.

Pt. i. Elementary course.

16th ed. 7 $\frac{1}{4}$ " viii + 502 pp. + pls., some folding. text illus. 7s. 6d.

Pt. ii. Advanced course.

14th ed. 7 $\frac{3}{4}$ " xvi + 1134 pp. + pls., some folding. text illus. 12s. 6d.

each Lond. : Batsford. 1944.

Transferred from Prisoners of War Book Scheme.

AMERICAN STANDARDS ASSOCIATION Inf. file 69 (083.74) (73)

American standards. [Lists and index.] (4501.)

10 $\frac{3}{4}$ " 24 pp. New York. 1945. R.

List (4401) 1944 in Library.

McKAY (W. B.) 69 (084)

*Building construction.

*Vols. i, 2nd ed. 8 $\frac{3}{4}$ " x 11 $\frac{1}{2}$ ". Lond., &c. : Longmans. 1943.

Also Vols. ii, iii, 1944, other copies.

From Prisoners of War Book Scheme (3 of each vol.). To Loan Library.

Vol. i, 1st ed. 1938, and vols. ii-iii, in Reference Library.

GRAF (DON) 69 (084)

*Data sheets. (From Pencil Points journal, 1932 Jan.—1942 Dec.,
and others.)

7". (v) + 779 + (16) pp. text illus. New York :

Reinhold. 1944. £1 10s. P. (3).

69 (73) + 69.088 (73) + 693 (73)

MINISTRY OF WORKS : BRITISH BUILDING MISSION

Methods of building in the U.S.A. The report of a mission &c. :—

*Appendices to the report of the mission &c.

dupl. typescript. 13". + pls. [1945.]

Presented by the Ministry (3).

Inf. file 69 : 016

D.S.I.R. : BUILDING RESEARCH STATION—LIBRARY

Library bibliographies :

No. 95. Books on building construction and kindred subjects

published in Great Britain between . . . 1940 and . . . 1944.

Revised ed. dupl. typescript. 12 $\frac{3}{4}$ ". [1945.] Presented.

YOUNG (A. E.) 69 : 51

*Practical mathematics. First year. [Mensuration, &c.] (Broad-

way text-books of technology, cover series title.)

2nd ed. 8 $\frac{1}{4}$ " vii + 124 pp. text diags. Lond. :

Routledge. 1920. 3s. 6d.

Transferred from Prisoners of War Book Scheme. To Loan Library.

Inf. file 69 : 621

REVERE COPPER AND BRASS Incorporated, New York

Researching for a new standard of living. [By Paul Nelson.]

9". 11 pp. [New York. C. 1944.] Presented.

STRUCTURAL ELEMENTS

69.03 : 551.566.2 (729.2) box 69.024

JAMAICA government : J— G— INFORMATION BUREAU FOR THE

BUILDING INDUSTRY

Bulletins ; by W. H. Edwards :

No. 3. Advice about the shape of roofs and remarks on roofing

materials. 9 $\frac{3}{4}$ ". (ii) + 4 pp. Kingston, Jam. : Govt. Printer. 1943.

Presented by the Director.

JOHN B. PIERCE FOUNDATION 69.025.3 : 69.021.13] 697.147

Research studies :

9 : (Thermal studies :) Thermal properties of a floor in contact

with the ground. By C. O. Mackey.

10 $\frac{1}{2}$ ". 24 pp. text diags. New York. 1944. R.

BRITISH STANDARDS INSTITUTION 69 (083.74) boxes

B.S. :

69.025.3 : 694

1187 : Wood blocks for floors.

Lond. 1944. 2s. R.

B.S. :

69.026 : 694.8

585 : Wood stairs with close strings.

Lond. 1944. 2s. R.

B.S. :

69.028.1 : 729.386.93

1209 : Glass internal sills to wood and metal windows.

Lond. 1945. 2s. R.

B.S. :

69.028.19

1227 : Hinges.

1945. 2s. R.

69.028.192 : 699.815

NATIONAL FIRE PROTECTION ASSOCIATION, Boston, U.S.A.

Building exits code. . . . Approved by American Standards Associa-

tion . . . American standard Ag.1—1942. ([Same No.], rubber-stamped.)

7th ed. reprint. 9". 109 pp. Boston, Mass. 1942 (1943).

(81.) P.

BRITISH STANDARDS INSTITUTION 69 (083.74) boxes

B.S. :

69.028.2 : 694.6 + 69.028.1

644 : pt. 1 : Wood windows and casement doors.

Lond. 1945. 2s. R.

Inf. file 69.028.2 : 694.6 (084)

ENGLISH JOINERY MANUFACTURERS' ASSOCIATION

Standard wood casement windows.

Sheet 22" x 37 $\frac{1}{2}$ ", folded to 11" x 8 $\frac{1}{2}$ ". Lond. [1945.]

Presented by the Association.

SPECIAL KINDS OF BUILDING

69.03 : 551.566.2 (729.2) box

69.03 : 551.566.2] 5/6 (729.2)

JAMAICA government : J— G— INFORMATION BUREAU FOR THE

BUILDING INDUSTRY

Report &c. By W. H. Edwards.

9 $\frac{3}{4}$ ". (i) + 42 pp. incl. pls. Kingston, Jam. : Govt. Printer. 1941.

Presented by the Director.

STRUCTURAL MECHANICS

Low (D. A.) 69.04 : 531

*Applied mechanics &c.

8 $\frac{1}{2}$ ". vii + 551 pp. text illus. Lond., &c. :

Longmans. 1944. 15s.

Transferred from Prisoners of War Book Scheme. To Loan Library.

Not in Reference Library.

BUILDING PRACTICE AND INDUSTRY

MINISTRY OF WORKS

Inf. file 69.08 : 31

Statistical tables relating to the building and civil engineering indus-

tries in war-time.

8 $\frac{1}{2}$ ". 14 pp. Lond. : H.M.S.O. 1945. 3d. (2).

Inf. file 69.08 : 331.81

Emergency powers (defence). Building and civil engineering con-

tracting (hours of employment). The B— & C— E— C— (H— of

E—) Direction, 1945, &c. (Statutory Rules and Orders, 1945 No. 478.)

leaflet. 9 $\frac{3}{4}$ ". Lond. : H.M.S.O. 1945. 1d. R.

MINISTRY OF HEALTH Inf. file 69.08 : 331.86

Scheme for the training of apprentices on special building works.

(Circular 145/45.)

leaflet. dupl. typescript. 7". 1945. R.

Enclosing Min. of Works. Form of Prime Cost Contract . . . for

work to be carried out by an apprentice master &c.

(M.O.W./AT/4), q.v.

MATERIALS

(series) 69 (494)

shelved 691 : 620.1

SWITZERLAND : DELEGIERTE FÜR ARBEITSBESCHAFFUNG

Schriftenreihe zur frage der arbeitsbeschaffung [executed works] :

Bautechnische reihe [series] :

Nr. 1. Bauen in kriegszeiten [war-time]. Bautechnische fragen der baustoffbewirtschaftung. [By] G. Leuenberger and M. Ros.

11 $\frac{1}{2}$ " 78 + (i) pp. + xi (xii-1) pls. (diags.) text illus. Zürich : Polygraphischer. [1942.] Presented through the British Press Attaché, Berne.

69 : 940.5 binder

691 : 940.5

MINISTRY OF HEALTH

Building materials and components. (Circular 137/45.) leaflet. dupl. typescript. 7", 1945. R.

Enclosing MIN. OF WORKS, Supply position, &c., q.v.

69 : 940.5 binder

MINISTRY OF WORKS : BUILDING MATERIALS DIVISION 691 : 940.5

Supply position of building materials and components. [With] Building materials and components. Schedule, &c.

leaflet. 9 $\frac{3}{4}$ ". Lond. 1945. R.

Enclosed in MIN. OF HEALTH, Bg. materials and components.

McELHANNEY (T. A.) and others 691.11 (71)

Canadian woods : their properties and uses :

Appx. : Tables for use in designing timber structures. By G. H. Rochester. (Canada : Dept. of the Interior. Forest Products Laboratories of Canada.)

9 $\frac{3}{4}$ ". (40) pp. Ottawa : Printer to King's M.H.M. 1935. Presented.

Main work not in Library.

691.11 : 634.98 box

DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH : FOREST PRODUCTS RESEARCH

Bulletins :

691.11 : 620.193.83

* No. 1. Dry rot in wood. K. St. G. Cartwright and W. P. K. Findlay.

* 4th ed. 9 $\frac{3}{4}$ ". iv + 32 pp. + (viii) pls. (backed).

text illus. Lond. : H.M.S.O. 1945. 1s. R. & P. (3).

TIMBER DEVELOPMENT ASSOCIATION Ltd. 691.11 [69.08 : 389

Stress grading of timber. What it is and why it is needed &c. By C. J. Chaplin.

7 $\frac{1}{2}$ ". 32 pp. 4 pls. (backed). text illus. Lond. [1945.] R.

69.03 : 551.566.2 (729.2) box

JAMAICA government : J— G— INFORMATION BUREAU FOR THE

BUILDING INDUSTRY

Bulletins ; by W. H. Edwards :

691.11 : 728

No. 2. Advice about the utilization of native timber for specific purposes in house construction.

9 $\frac{3}{4}$ ". (ii) + 4 pp. Kingston, Jam. : Govt. Printer. 1943.

Presented by the Director.

691.2 : 553

No. 1. Advice about the utilization of marl, of red dirt, of lime, and sand for the construction of mortar floors and walls of framed houses.

9 $\frac{3}{4}$ ". (ii) + 20 pp. incl. pls. Kingston, Jam. : Govt. Printer. 1943.

Presented by the Director.

BRITISH STANDARDS INSTITUTION

69 (083.74) boxes

691.31

1217 : Cast stone.

Lond. 1945. 2s. R.

691.32 + 693.51 + 693.55

REINFORCED CONCRETE ASSOCIATION Ltd.

Technical papers :

* No. 3. The principles of concrete making and its reinforcement. R. V. Chate, ed.

8 $\frac{1}{4}$ ". 50 pp. text illus. Lond. : the Assn. (94, Petty France, S.W.1.). 1944. 2s. 6d. R. (2).

BRITISH STANDARDS INSTITUTION 69 (083.74) boxes

B.S. :

691.472.5

1190 : Hollow clay building blocks.

Lond. 1944. 2s. R.

B.S. :

691.598 : 667

1215 : Oil stains.

Lond. 1945. 2s. R.

691 : 940.5 arch file

691.71 : 940.5

MINISTRY OF SUPPLY

Emergency powers (defence). Raw materials (iron and steel).

The Control of I— and S— (No. 41) Order, 1945, &c. (Statutory

Rules and Orders, 1945 No. 408.)

leaflet. 9 $\frac{3}{4}$ ". Lond. : H.M.S.O. 1945. 1d. R.

To be continued.

Correspondence

Government regulation and housing module.

19 Buckingham Street,

Adelphi, London, W.C.2.

26.11.45.

The Editor, THE JOURNAL R.I.B.A.

DEAR SIR,—The numbers of Architects and other designers preparing drawings for the construction of small houses must now be considerable. It will, I think, be agreed that to a very great extent they are working without that detailed knowledge of the requirements, particularly from the point of view of compliance with Government regulations and policy, and the availability of materials, which is necessary if delay and expense are to be avoided at a later date through variations and revisions.

This extra expense is also greatly aggravated where the system of construction is designed for quantity or mass production.

My own experience, and a file showing most of the small house plans published within recent years, show that while type plans appear to reduce themselves to a fairly small number, variety of planning grids leads to infinite variation.

Now, the Ministry of Works has sponsored the manufacture of unit domestic equipment to a standard width of 1 ft. 9 in. which suggests a planning grid of 3 ft. 6 in. Most board materials, however, such as plasterboard, plywood, wallboard, are not available in this width, nor has the Ministry given any indication of the manner in which clearances are to be allowed in order to provide a tolerance sufficient to take up variations in size within normal commercial limits (in this case probably plus or minus $\frac{1}{8}$ in.). In practice this makes it impossible to fit a range of equipment to the "spot on" dimensions of a pre-arranged planning grid.

Among the grids being used by designers are 3 ft., 3 ft. 4 in., 3 ft. 6 in., 3 ft. 9 in., and 4 ft., but only two of these are related to the production sizes of wall lining materials, and in no case does any method exist for dealing with the question of tolerances.

What is needed is : Firstly, a very rapid and detailed information service from the Government Departments concerned to Architects and other designers setting out Government regulations and policy as they affect housing ; secondly, either these Departments or the Professional or Trade Union bodies, or all of them together, should set about reducing the numbers of dimensional grids being used, and relate them to the production sizes of building materials, making due allowance for satisfactory clearances.

Once machinery has been set up for the production of a building material, or the tools made for the manufacture of equipment, alterations in size are virtually impossible.

Therefore, if the designers fail to achieve this co-ordination during the design stage of our post-war housing proposals, we shall be prevented from bringing about any dimensional relationship between planning, equipment, and materials, for many years to come.

Yours faithfully,

RONALD CHAPMAN [A.].

Architectural Education

18 Friar Lane,

Leicester.

14.11.45.

The Editor, THE JOURNAL R.I.B.A.

SIR,—The subject of architectural education, stimulated no doubt by Professor Budden's admirable paper, appears to be engaging a good deal of attention. In recent issues of the JOURNAL several members have put forward points of interest and importance, but one aspect of the matter has apparently escaped the general attention it deserves. I refer to the training of assistants.

Obviously there must at all times be a considerably larger number of assistants than principals. Further, at least two general grades of assistants are necessary, senior and junior.

Under the excellent and comprehensive education schemes now receiving so much attention there will exist numerous centres all disgorging annually large numbers of fully trained and diplomaed architects who only have to acquire a rather limited amount of "practical experience" before becoming duly qualified.

The position for all but a very few and exceptional practices, therefore, seems to be that they must staff their offices with a peripatetic crowd of fully-trained men "gaining experience" with a few office boys who can have no hope of ever improving their status to any real degree. Equally, it seems unreasonable to suppose that a man who has exhibited the keenness, ability and protracted application necessary to become

qualified will be content to remain as an assistant (except perhaps as chief assistant in some very large office or establishment).

What, then, is to do the very large volume of work which neither the principals nor the office boys can cope with?

There might also be borne in mind the consideration that under the school method of architectural education no provision appears to have been made whereby the profession can control or regulate the numbers of its recruits.

I venture to submit, Sir, that unless the profession gives careful attention to these matters, we shall in a few years, when our old and trusted assistants are no more, find ourselves in a more than difficult situation.

I am, Sir,
ANTHONY HERBERT [A.].

Lt.-Col. O. Gill, R.T.R.,
British Military Mission to Greece,

C.M.F.
28.11.45.

To the Editor, JOURNAL R.I.B.A.

SIR,—I have to-day received the October copy of the JOURNAL and have been most impressed by Mr. W. A. Eden's letter on p. 374.

As it so concisely puts into words the fears that have been worrying me for the last six years in the army, I feel compelled to write this, my first letter to any publication.

Having completed four years at authorised schools and about to commence my fifth and last year, I was embodied in the Territorial Army. As I held a commission in that force I did not have a chance to complete my exemption from the Final R.I.B.A. Exam.

Having seen the realities of the outside world (the world outside schools of architecture) and held responsible appointments in the army, I shall find it more than difficult to put up with the "potted idealism and pseudo Art for Art's sake," which abounded when I was last a student.

I think Mr. Eden's friend is, however, a bit hard on the "mob of pimply seventeen-year-olds." After all, we were all like that at one time—it is a normal condition of adolescence. What is essential, however, is that the directors and staffs of architectural schools should realise that students returning after periods of responsibility in the Services have not the same mental outlook as those who have not had this experience and therefore must not be treated as such.

Many, like myself, will be married with a family; they will have but one ambition—and that is to get on with the job, get qualified and get out into the world to earn enough to support their families.

Yours faithfully,
OSWALD GILL, Lt.Col. R.T.R. [Student].

Notes

THE UNIVERSITY OF LIVERPOOL

LIVERPOOL SCHOOL OF ARCHITECTURE

Applications are invited for the full-time post of Ungraded Lecturer and Studio Instructor in the School of Architecture, at a salary of £500 per annum, with child allowances.

Applications, accompanied if possible by drawings or photographs of work, two testimonials, and the names of two referees, should be received not later than 11 February 1946, by The Registrar, Mr. Stanley Dumbell, from whom further particulars may be obtained.

MAINTENANCE SCHOLARSHIPS IN ARCHITECTURE

The Architects' Registration Council of the United Kingdom offer for award in June 1946 certain Maintenance Scholarships in Architecture. The Scholarships will consist of a grant for the payment, in whole or in part, of the School fees and necessary subscriptions, instruments, books, etc., and, when necessary, a maintenance allowance not to exceed as a rule £100 a year. The Scholarships will be renewable from year to year until the student has finished his or her School training. They will be available for Students of British nationality who could not otherwise afford such training to enable them to attend Architectural Schools approved by the Council. The Scholarships will be available both for students who have already begun their

training and for students wishing to begin their training. Scholarships will not be granted to Students who will be less than 17 years of age on 1 October of the year in which the examination is taken.

Particulars and forms of application may be obtained from:—

The Secretary to the Board of Architectural Education,
Architects' Registration Council of the
United Kingdom,
68 Portland Place, London, W.1.

Copies of previous years' examination papers may be obtained on payment of 6d.

The closing date for the receipt of applications duly completed is 1 February 1946.

ADVISORY COMMITTEE ON BUILDINGS OF SPECIAL ARCHITECTURAL OR HISTORIC INTEREST

The Minister of Town and Country Planning has appointed a committee of experts to advise him upon all matters connected with the administration of Sections 42 and 43 of the Town and Country Planning Act, 1944. Section 42 authorises the Minister, for the guidance of local authorities in their planning, to compile or approve lists of buildings of special architectural or historic interest. Section 43 lays down that buildings so listed shall not be demolished or altered without two months' notice being given to the local authority, and extends in certain respects the authority's power to preserve such buildings.

As announced recently in Parliament the Chairman of the Committee will be:

Sir Eric Maclagan, K.C.V.O., Director of the Victoria and Albert Museum from 1924 to 1945, Vice-President of the Society of Antiquaries 1932-36.

The other members will be:

Mr. G. H. Chettle, F.S.A., Inspector of Ancient Monuments, Ministry of Works.

Sir Alfred W. Clapham, C.B.E., F.B.A., Secretary, Royal Commission on Historical Monuments (England), President of the Society of Antiquaries 1939-44.

Mr. S. E. Dykes Bower, F.S.A. [F.].

Sir Cyril Fox, F.B.A., President of the Society of Antiquaries, Director of the National Museum of Wales.

Professor V. H. Galbraith, F.B.A., Director of the Institute of Historical Research and Professor of History in the University of London.

Mr. Walter H. Godfrey, F.S.A. [F.], Director of the National Buildings Record.

Captain H. S. Goodhart-Rendel, President of the Royal Institute of British Architects 1937-39.

Professor W. G. Holford [A.], Lever Professor of Civic Design in the University of Liverpool, Director of Research, Ministry of Town and Country Planning.

Mr. Marshall Sisson, F.R.I.B.A., Member of Estates Committee, National Trust, Member of Committee, Society for the Protection of Ancient Buildings.

Mr. John Summerson, F.S.A. [F.], Curator of Sir John Soane's Museum.

Professor Geoffrey F. Webb [A.], Slade Professor of Fine Art at the University of Cambridge.

Secretary: Mr. Anthony R. Wagner, F.S.A., *Richmond Herald*.

MEMBERS SERVING WITH THE FORCES

KILLED

HUGHES, A. M. B. [S.], P/Officer R.A.F.

MISSING

BIVON, R. B. [A.], Capt. R.E.

PATON, J. C. [A.], F/Officer R.A.F.

DECORATIONS AND DISTINCTIONS

BARKER, A. J. [S.], Lieut. R.E. Mentioned in Despatches.

BARLOW, L. R. [S.], Major R.E. Mentioned in Despatches.

DUNHAM, P. B. [A.], Major R.E. Mentioned in Despatches.

GODDARD, F. W. [S.], Capt. R.E. Mentioned in Despatches.

GRAYSON, W. H. [L.], Capt. R.E. Mentioned in Despatches.

KELLETT, K. G. [A.], Lieut. R.E. Mentioned in Despatches.

KINGSFORD, G. M. [F.], Sqdn/Ldr. R.A.F. Mentioned in Despatches.

MOTTRAM, J. A. H. [A.], Capt. R.E. Mentioned in Despatches.

PARSONS, L. H. [A.], Major R.E. Mentioned in Despatches.
 PITT, R. A. [S.], Capt. R.A. Mentioned in Despatches.
 PORRI, A. P. [A.], Capt. R.E. Mentioned in Despatches.
 TAYLOR, J. P. [A.], Lt.-Col. R.E. Mentioned in Despatches.
 WIDDUP, F. M. [A.], Capt. R.E. Mentioned in Despatches.

[MEMBERS FROM JAPANESE P.O.W. CAMPS]

Information has been received that the following members and Students have been released from Japanese hands and they are safe and well:—

GEORGE ANNAND [A.]	C. O. MIDDLEMISS [A.]
R. J. B. CLARK [F.]	ALFRED PICKFORD [A.]
D. C. DAVIES [S.]	H. J. TEBBUTT [A.]
J. M. FRASER [A.]	V. S. VAN LANGENBERG [L.]
R. R. GARDINER, D.C.M.,	J. M. VENTERS [F.]
M.M. [L.]	R. J. VERNALL [A.]
A. W. HODGES [F.]	R. J. WESTAWAY [S.]

NOTES FROM THE MINUTES OF THE COUNCIL 16 OCTOBER, 1945

Appointments

B.S.I. Committees

B/71 Windows for Prefabricated Houses, P. J. Waldram [L.], A. F. Hooper [F.], George Fairweather [F.].

SF/16 Column Radiators, R. B. Ling [F.].

IS/13 Revision of B.S.S.6, Ronald Chapman [A.], D. Winston Aldred [F.].

ASB/- Asbestos Cement Products

ASB/1 " " Sheetting

ASB/2 " " Pressure Pipes

ASB/3 Light and Heavy Flue Pipes

ASB/4 Rainwater and Soil Pipes

HIB/17 Sundry Fixings for Building Purposes, Lieut.-Col. H. V. Kerr [F.].

NF/19 Wrought Aluminium and Light Alloys, E. D. Mills [A.], R. S. Nickson [F.].

DOM/1/4 Documentation: Universal Decimal Classification, H. Roberts, V. Molesworth

ME/32 Engineering Symbols and Abbreviations, D. Winston Aldred [F.].

Annual Meeting of the General Council for the National Registration of Plumbers, Nottingham, 25 July

Mr. F. A. Broadhead [F.], President of the Nottingham, Derby and Lincoln Architectural Society.

Conference and Exhibition of International Housing and Architecture, Gloucester, 27-31 July

Professor Sir Charles Reilly [F.].

Central Housing Advisory Committee: Sub-Committee on the Conversion of Existing Houses: Representative to give evidence

Mr. Joseph Hill [F.].

Codes of Practice Committee on Weather Resisting Roof Coverings

Major C. H. Heathcote [L.] (representing B.I.N.C.) and Mr. E. D. Mills [A.].

London Thanksgiving Week

Mr. A. S. Killby [F.].

Mr. C. Wontner Smith [F.], Building Industry Group Committee.

Association of British Chambers of Commerce: Land and Buildings Committee

Mr. P. V. Burnett [F.].

Use of Royal Ordnance Factories at Wrexham and Ranskill: Panel to advise the Minister of Supply

Professor W. G. Holford [A.].

Information on Building Technique in Germany

A report was received from Mr. A. F. Hare [A.] on the mission which he accompanied to Germany to investigate housing standards, construction and methods of prefabrication.

Report of the Special Committee on Architectural Education

The Council decided to publish the report of the Special Committee on Architectural Education and to refer the report back to the Board of Architectural Education for full consideration together with comments which have been submitted by the Allied Societies.

Gift by the National Art Collections Fund

The thanks of the Council have been conveyed to the National Art Collections Fund for the gift to the R.I.B.A. of two drawings by Sir Edwin Lutyens for a stone arch bridge proposed to be erected over the water in St. James's Park in place of the existing iron bridge.

War Damage Repairs by Local Authorities

The Executive Committee reported that they had taken up with the War Damage Commission and the Ministry of Works the question of war damage repairs being undertaken by local authorities while architects in private practice were unable to obtain licences on behalf of their clients.

Report of the Committee on School Design and Construction

It was agreed that copies of the report of the Committee on School Design and Construction be sent to the Clerks to Local Education Authorities.

Architectural Science Board: Scheme for Field Research

The Department of Scientific and Industrial Research have agreed to adopt the suggestion put forward by the Architectural Science Board for the formation of a panel of honorary part-time "observers" who will collaborate with the Director of Building Research and his staff in the collection and dissemination of scientific information.

Council for Education in Appreciation of Physical Environment

The Council have made a grant of £10 to C.E.A.P.E.

Exhibition of Town Planning for Sweden

The Town Planning Committee have been asked to deal with the preparation of an exhibition of British Town Planning to be sent to Sweden and other Scandinavian countries.

The arrangements will be made in conjunction with the British Council.

Hampshire and Isle of Wight Architectural Association

The Council approved the proposal to form an Isle of Wight Chapter of the Hampshire and Isle of Wight Architectural Association.

Society of Industrial Artists Code of Professional Conduct

The Society of Industrial Artists have added clauses to their Code of Professional Conduct which in the opinion of the Practice Committee would be prejudicial to the position of members of the R.I.B.A. who are members of the Society of Industrial Artists. It was decided that it would not be possible to agree to the inclusion of the note in the Society of Industrial Artists' Code which was approved by the R.I.B.A. Council in February 1945.

Fees for Mass-Produced Houses

On the recommendation of the Practice Committee the Council approved the appointment of a Special Committee to consider and report on the question of fees in connection with mass-produced houses.

The Work of the Salaried Members' Committee

The Council approved a recommendation of the Salaried Members' Committee that notes be published in the JOURNAL from time to time giving details of cases dealt with by the Committee.

The National Plan

The Council have approved the publication of the work so far done on the National Plan and a Sub-Committee of the Town and Country Planning Committee is dealing with the matter.

The Council decided not to proceed further with work on the National Plan.

Draft Code of Professional Conduct of the A.R.C.U.K.

The Council, on the recommendation of a Joint Meeting of the Registration and Practice Committees and after consideration of comments submitted by the Allied Societies, have made suggestions for the consideration of the Architects' Registration Council for the amendment of the Draft Code of Professional Conduct now being considered by them.

Scale of Fees for the Emergency Conversion of Dwelling Houses into Flats

The Ministry of Health have agreed to a revised time scale under Clause 1 of the Scale of Fees for the Emergency Conversion of Dwelling Houses into Flats by Local Authorities which was published in the May 1944 JOURNAL.

Revision of the R.I.B.A. Scale of Professional Charges

The Council approved the revision of Clause 7 of the R.I.B.A. Scale of Charges to provide for a minimum fee of seven guineas a day.

Report of the Board of Architectural Education

One hundred and nineteen Probationers were elected as Students.

Report of the Architectural Science Board

The British Standards Institution have been asked to prepare a B.S.S. covering nomenclature and definitions and have also been asked to instruct their Committees to prepare a synopsis of each specification as soon as the specification itself is ready.

Manchester Planning Exhibition

The Council passed a cordial vote of thanks to the Manchester Society of Architects and all others who were concerned, with the

arrangements for the Conference held in connection with the Exhibition of the Manchester Plan on 6 and 7 September.

Obituary

The Secretary reported with regret the death of 2 Hon. Associates, 8 Fellows, 5 Retired Fellows, 1 Retired Member of the Society of Architects, 11 Associates, 10 Licentiates, 2 Retired Licentiates and 8 Students.

Membership

The following members were elected:—

As Fellows: 23. As Associates: 23. As Licentiates: 30.

Election 11 December 1945

Applications for election were approved as follows:—

As Hon. Corresponding Member: 1. As Fellows: 12. As Associates: 18. As Licentiates: 14.

Election, 12 March 1946

Applications for election from overseas candidates were approved as follows:—

As Fellow: 1. As Associates: 7.

Reinstatements

The following ex-members were reinstated:—

As Fellow: Harold Bertram Challen.

As Associates: William Dalton Ironside, Hedley, Bernard Marshall, John Frederick Malcolm Watts, Bertram Stuart Trevelyan Archer, Alfred George Armstrong, Raymond Charles Arnold, John Alexander Black, Keith Braden, Ernest Harry Hamilton Higham, Leslie Hagger Kemp, Arthur Roberts, James Blakeney Symonds, Leslie Kenyon Watson.

As Licentiates: Charles Mann, Bruce Leonard Burge.

Resignations

The following resignations were accepted with regret:—

George Edward Hubbard [F.], William Black [L.], Samuel George Parr [L.], John Hogg Ferrie [L.].

Applications for Transfer to the Retired Members' Class under Bye-law 15

As Retired Fellows: Ernest Marshall Wood, Norman Frederick Woodroffe.

As Retired Associates: William John Roberts, Ernest George Besant.

As Retired Licentiates: Roland Rich, Luther Richardson, Robert Clifford Turner Gordon.

Membership Lists

ELECTION: NOVEMBER, 1945

The following candidates for membership were elected on 13 November 1945:—

AS FELLOW (1)

NEWHAM: WILLIAM BENJAMIN TURNER [A. 1923], Pretoria.

AS ASSOCIATE (1)

COOK: VINCENT NEALE (Passed a qualifying Exam. approved by the I.S.A.A.), Johannesburg.

ELECTION: 15 JANUARY, 1946

An election of candidates for membership will take place on 15 January 1946. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday, 12 January 1946.

The names following the applicant's address are those of his proposers.

AS FELLOWS (8)

BUCHANAN: JAMES WARDROP (Sqdn./Ldr., R.A.F.) [A. 1929], Houghton House Annexe, Houghton Street, W.C.2; 5 Hillside, Wimbledon, S.W.19. A. R. F. Anderson, S. R. Pierce and Frederick MacManus.

GARDNER: ALFRED HERBERT [A. 1927], 11 Eaton Road, Coventry, 11 Firs Estate, Kenilworth Road, Coventry. A. C. Bunch, S. N. Cooke and Frederick Gibberd.

HUME: BERTRAM STEWART (Major R.E.) [A. 1925], Semer House, near Ipswich. Howard Robertson, J. M. Easton and V. O. Rees.

KEMP: CECIL GEORGE [A. 1926], Ashley Court, Ashted, Surrey; Sewell's Orchard, Twinn, Herts. J. H. Forshaw, Sir Patrick Abercrombie and Louis de Soissons.

OSBORNE: FRANK JOHN, M.C. [A. 1908], 95 Colmore Row, Birmingham, 3; 800 Warwick Road, Solihull. H. T. Buckland, H. W. Hobbiss and W. T. Binslyn.

PRINGLE: GORDON, M.B.E., M.A. [A. 1926], 33, Markham Street, S.W.3. G. R. Dawbarn, H. M. Fletcher and A. W. D. Reid.

READ: GEOFFREY ERNEST [A. 1925], War Damage Commission, Bankside House, 107/112, Leadenhall Street, E.C.3; 91 Rodney Court, Maida Vale, W.9. R. K. Ellison, L. S. Crosbie and T. G. Jackson.

WISE: ARTHUR GEORGE, Dip.Arch.Lond. [A. 1933], Greenways, Launceston, Cornwall. A. J. Seal, A. E. Geens and W. J. Mountain.

AS ASSOCIATES (51)

The name of a school or schools after a candidate's name indicates the passing of a recognised course.

ADLER: CYRIL (Final), 230 Kew Road, Richmond, Surrey. C. J. Epril, P. V. Burnett and D. L. Solomon.

ARUNDEL: KENNETH (Leeds Sch. of Arch.), 67 Victoria Grove, York Road, Leeds, 9. Applying for nomination by the Council under Bye-law 3 (d).

BANKS: GERALD GRIMSHAW, Dip.Arch.(Dist.) L'pool. (Univ. of Liverpool), 23 Dunkirk Road, Southport. Prof. L. B. Budden, L. H. Keay and F. J. M. Ormrod.

BARNES: ALFRED STANLEY (Univ. of Liverpool), 135 Whiteledge Road, Liverpool, 19. Prof. L. B. Budden, F. J. M. Ormrod and H. Thearle.

BARON: MRS. MARGARET (Univ. of Liverpool), Fairlight, Haverbreaks, Lancaster. Prof. L. B. Budden, J. E. Marshall and F. X. Velarde.

BAY: PETER LAURITZ HANSEN, B.A.(Arch.) Cantab. (Final), Northleys, Much Hadham, Herts. Sir Giles Scott, A. G. Crimp and F. G. Thomas.

BELL: MARSHALL (Special Final Exam.), "Brandelhow," Pelton, Chester-le-Street, County Durham. R. G. Roberts, R. N. MacKellar and S. M. Richmond.

BEVAN: JOHN JAMES (Special Final Exam.), 6, Lancaster Road, Wimbledon Common, S.W.19. P. A. W. Roffey, Brian O'Rourke and G. M. Aylwin.

BIRD: CHARLES LEONARD (Final), 75 Blake Hall Road, Wanstead, E.11. T. E. Scott, Harold Cherry and C. W. Box.

BONE: JOHN BOLAM (Special Final Exam.), 19 Prudhoe Terrace, Tynemouth, Northumberland. W. B. Edwards, G. H. Gray and R. R. Kitching.

CRISP: ALAN RUSSELL (Final), Oakhurst, 326 Trowell Road, Wollaton, Nottingham. George Checkley, T. C. Howitt and F. A. Broadhead.

CUTMORE: WILLIAM HENRY (Final), 18 Moorfield Road, North Chessington, Surrey. H. A. Porter, J. W. Williamson and C. W. Box.

DAVISON: THOMAS JAMES MAURICE (Final), "Evergreen," 11 Old Hollywood Road, Belfast, N. Ireland. R. H. Gibson, R. S. Wilshire and J. H. Stevenson.

ELLIOTT: EDWARD GRAHAM (Final), 154 Dowsett Road, Tottenham, N.17. H. E. Askey and applying for nomination by the Council under Bye-law 3 (d).

FERGUSON: BRIAN (Final), 4, Rectory Court, Goldings Hill, Loughton, Essex. D. W. Aldred, W. H. Hamlyn and E. H. Ashburner.

FITT: MISS PAMELA MURIEL, B.Arch. (Passed a qualifying Exam. approved by the Inst. of South African Architects), 80 Station Road, New Barnet, Herts. Applying for nomination by the Council under Bye-law 3 (d).

GOODACRE: DAVID MEAKIN (Nottingham Sch. of Arch.), 1 Bute Avenue, Nottingham. George Checkley, T. C. Howitt and F. A. Broadhead.

GRAY: JOSEPH (Special Final Exam.), "Braemar," Dryburn Road, Durham Moor, Durham. F. N. Weightman, C. W. Box and F. Willey.

GREED: JOHN KENNETH (Special Final Exam.), 4 Colebrook Road, Bexhill-on-Sea, Sussex. Thos. Wallis, Frank Cox and F. C. Button.

HAZELL: JOHN LAWRENCE (Special Final Exam.), "Eversley," Everton Road, Yeovil. C. W. Box, A. J. Seal and Philip Hardy.

HUTCHINGS: STANLEY (Special Final Exam.), County Architect's Department, County Hall, Truro, Cornwall. B. W. Oliver, A. C. H. Stillman and R. F. Wheatley.

JACK: WILLIAM, JR. (Final), East Shore, Cellardyke, Anstruther, Fife. A. D. Haxton, P. H. Thoms and Wm. Salmund.

JACKSON: DAVID WATSON (Final), 194 Woodlands Road, Glasgow, C.3. W. J. Smith, Alexander Wright and J. A. Coia.

JACOB: CHARLES EDWARD (Final), St. Albans, Butts Road, Sholing, Southampton. J. T. W. Peat, H. W. Burchett and W. H. Mitchell.

JOHNSTON: CECIL (Final), "Caragh," 34 Locksley Gardens, Finaghy, Belfast. R. S. Wilshire, T. R. Eagar and Frank McARDLE.

KELLY: GERARD AUGUSTINE (Final), Market Street, Downpatrick, Co. Down. P. B. Gregory, John Seeds and J. R. Young.

LE CLERC : WILLIAM PERCIVAL (Final), Springfield, Sydney Avenue, Blackrock, Co. Dublin. Vincent Kelly, F. G. Hicks and J. O'Hanlon Hughes.

LE SUEUR : ALBERT (Special Final Exam.), 6 York Street Chambers, St. Helier, Jersey, Channel Islands. A. B. Grayson, G. D. G. Hake and E. H. Button.

MCGAVIN : JAMES STEWART (Special Final Exam.), Bridgend House, Bridgend, Perth. C. E. Monro, William Ross and R. M. Mitchell.

MACLYNN : CORMAC THOMAS (Special Final Exam.), 35 Royal Avenue, Belfast. P. B. Gregory, R. H. Gibson and R. S. Wilshire.

MELLAND : GUY SEYMOUR (Final), 29 Northfield Road, King's Norton, Birmingham, 30. H. W. Weedon, S. R. Pierce and S. G. Jeeves.

MILLS : WILFRED EDGAR (Final), 30 Kingswood Road, Brixton Hill, S.W.2. Norman Keep, J. K. Hicks and T. J. Lynch.

MITCHELL : JOSEPH EDWIN (Northern Poly., London), 4 Heddon Court Avenue, Cockfosters, Herts. T. E. Scott, Edward Armstrong and Brian O'Rorke.

MOON : ARTHUR LESLIE (Final), 1 Acton Lane, Harlesden, N.W.10. E. C. Scherrer, H. Lidbetter and S. G. Jeeves.

MOON : CHARLES PETER (Final), 8 Chestnut Avenue, Derby. C. W. Box, Francis Jones and P. G. Fairhurst.

NEILL : ALBERT (Special Final Exam.), "Runnymede," 25 Taunton Avenue, Belfast. Frank McArdle, R. H. Gibson and J. R. Young.

PHILLIPS : CHARLES JOHN (Final), 69 St. Mary Street, Woolwich, S.E.18. J. H. Anderson and applying for nomination by the Council under Bye-law 3 (d).

ROBERTS : JAMES ARTHUR (Birmingham Sch. of Arch.), 46 Portman Road, King's Heath, Birmingham, 14. George Drysdale, T. M. Ashford and Herbert Jackson.

ROWBOTHAM : JEFFREY (Glasgow Sch. of Arch.), 19 Arthurle Drive, Giffnock, Glasgow. W. J. Smith, Prof. Sir Patrick Abercrombie and Alexander Wright.

SANGER : HAROLD (Special Final Exam.), 30 Broomhurst Avenue, Oldham. T. J. Hill, Ernest Simister and Harold Bowman.

SKEATS : GEORGE EDWARD (Special Final Exam.), 30 Ormond Drive, Hampton, Middlesex. Samuel Beverley, C. W. Reeves and Alfred Forrester.

SMITH : HENRY PERCY (Special Final Exam.), c/o Commonwealth Bank of Australia, Strand, W.C.2. Samuel Beverley, O. H. Leicester and C. W. Reeves.

STANTIAL : HAROLD JOSEPH GEORGE (Final), 45 Marlock Way, New Malden, Surrey. R. Wilson, Edwin Williams and G. W. Home.

STARRETT : NORMAN, B.Arch. (Hons.) L'pool, (Univ. of Liverpool), 51 Jonville Road, Aintree, Liverpool, 9. Prof. L. B. Budden, L. H. Keay and F. J. M. Ormrod.

STATHAM : STEPHEN HAYWOOD (Final), 70a Strand-on-the-Green, Chiswick, W.4. S. Clough, Sir A. Brunwell Thomas and C. W. Box.

VIGOUR : IVOR JOHN JAMES (Special Final Exam.), 210 Sheen Road, Richmond, Surrey. Clyde Young, C. W. Box and Lt.-Col. S. H. Fisher.

WADE : ERNEST (Final), 1 Dyers Hall Road, Leytonstone, E.11. Applying for nomination by the Council under Bye-law 3 (d).

WHITE : WALTER DOUGLAS (Special Final Exam.), 1 Wickham Way, Haywards Heath, Sussex. G. W. Home, Edwin Williams and B. H. Toms.

WRIGLEY : DEREK FULLER, D.A. (Mancr.) (Final), 1 Langdale Avenue, Coppice, Oldham, Lancs. Ernest Simister, Harold Bowman and T. J. Hill.

YARD : GILBERT HARRY (Final), Withy Grove, Stoke St. Gregory, Taunton. C. W. Box, H. S. W. Stone and E. C. Francis.

YARWOOD : GEORGE (Special Final Exam.), 7 Silkmore Lane, Stafford. G. L. Clarke, L. S. Stanley and A. C. H. Stillman.

AS LICENTIATES (12)

ALEXANDER : WILLIAM, Middlesex County Council; 11 Beechcroft Road, Orpington, Kent. W. T. Curtis, H. W. Burchett and G. L. D. Hall.

BARKER : JOHN GREGORY, Staff Architect, c/o Messrs. Gee, Walker and Slater, Ltd., Uttoxeter Old Road, Derby; 32 Hayes Avenue, Derby. Applying for nomination by the Council under Bye-law 3 (d).

CHURCHILL : OLIVER WILLIAM, c/o Borough Engineer and Surveyor's Office, Guildhall, Cambridge; 25 Highworth Avenue, Cambridge. J. Macgregor, G. P. Banyard and D. H. Loukes.

MCGANN : JOSEPH PAUL, 4 Rockingham Road, Yardley, Birmingham, 25. L. E. Harper, W. N. Twist and H. W. Weedon.

MITCHELL : GEORGE WILLIAM, 9 Upper Fountaine Street, Albion Street, Leeds, 2; 19 Montreal Avenue, Leeds, 7. N. R. Paxton, C. Sunderland and W. A. Jones.

OAKES : ARTHUR SYDNEY, c/o The County Architect, Shire Hall, Warwick; 10 The Butts, Warwick. A. C. Bunch and applying for nomination by the Council under Bye-law 3 (d).

PATERSON : JAMES STRATTON, D.C.R.E. Office, 10 Albany Terrace, Dundee; 12 Bellefield Avenue, Dundee. William Salmond and the President and Secretary of the Dundee Chapter of the R.I.A.S. under Bye-law 3 (a).

PEARSON : RALPH HENRY, c/o Brian O'Rorke, Esq., 133a Sloane Street, S.W.1; 17 Hervey Road, Blackheath, S.E.3. A. G. Alexander, E. W. Armstrong and E. B. O'Rorke.

STEWART : WILLIAM ALEXANDER, Messrs. W. Hinton Stewart and Partner, 24 The Broadway, Northbourne, Bournemouth; Purbeck House, Highlands Road, Barton-on-Sea, New Milton, Hants. M. G. Cross, A. E. Geens and Ernest Bird.

VAN RAAT : ALFONSO CHRISTIAAN, Architect's Department, I.C.C. County Hall, S.E.1; 32 Prince of Wales Mansions, S.W.11. Victor Heal, J. H. Forshaw and Edwin Williams.

WARWICK : PHILIP HENRY, M.T.P.I., City Engineer and Surveyor, Guildhall, Winchester; "Overcombe," St. Cross Hill, Winchester. H. S. Sawyer, A. L. Roberts and A. E. T. Mort.

WILKINS : FREDERICK ERNEST, Ministry of Works, Cleland House, Page Street, S.W.1; 52 Haselbury Road, Edmonton, N.18. E. W. Palmer, L. D. Tomlinson and C. J. Mole.

ELECTION : 9 APRIL, 1946

An election of candidates for membership will take place on 9 April 1946. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday, 30 March 1946.

The names following the applicant's address are those of his proposers.

AS FELLOW (1)

ARTHUR : PROF. ERIC ROSS, M.A., B.Arch. [A. 1924], School of Architecture, University, Toronto; 20 Montclair Avenue, Toronto. W. L. Somerville, B. R. Coon and H. L. Allward.

AS ASSOCIATES (3)

The name of a school or schools after a candidate's name indicates the passing of a recognised course.

BOLOT : AARON (Passed a qualifying Exam. approved by the R.A.I.A.), 34 Aboud Avenue, Kingsford, N.S.W., Australia. F. G. Gilling, J. F. Hennessy and W. R. Richardson.

McKENZIE : GORDON ALEXANDER (Passed a qualifying Exam. approved by the R.A.I.A.), 18 Wallace Street, Kingsford, N.S.W., Australia. W. R. Richardson, B. J. Waterhouse and Cyril Ruwald.

McKENZIE : MALCOLM HARRINGTON, B.Arch. (Univ. Coll., Auckland, N.Z.), 12 Gardner Road, Epsom, Auckland, S.E.3, New Zealand. Applying for nomination by the Council under Bye-law 3 (d).

Competitions

COMPETITION FOR LAYOUT AND REPLANNING OF THE CRYSTAL PALACE

The Trustees of the Crystal Palace and the Council for the Encouragement of Music and the Arts (C.E.M.A.) invite architects and town-planners to submit designs for the layout of the new Crystal Palace and its surroundings.

Assessors : Prof. Sir Patrick Abercrombie [F.]
Dr. Charles Holden [F.]
Mr. Alister MacDonald [F.]
Sir Kenneth Clark, K.B.E.
Mr. Lewis Silkin, M.P.

Premiums : £2,000, £750, £500, and a further sum of £500 may be awarded at the discretion of the Assessors.
Last day for submitting designs : 6 April 1946.

WORKERS' TRAVEL ASSOCIATION: COMPETITION FOR HOLIDAY CENTRES.

The Workers' Travel Association invites architects to submit in competition designs for (a) an inland holiday centre and (b) a coastal holiday centre.

Assessors : Sir Patrick Abercrombie, M.A., P.P.T.P.I. [F.], J. H. Forshaw, M.C., M.A., M.T.P.I. [F.], C. G. Kemp [A.].

Premiums: Two of £250. Two of £100.

Last day for submitting designs: 1 February 1946.

Conditions of the competition may be obtained on application to The Workers' Travel Association, Ltd., 34-36 Gillingham Street, London, S.W.1.

WESTMINSTER: COMPETITION FOR WORKING-CLASS FLATS.

The Westminster City Council invite architects to submit in competition designs for the layout of about 31 acres in Westminster, and for the design of flats to be erected thereon.

Assessor: Mr. Stanley C. Ramsey [F.].

Premiums: 700 guineas, 500 guineas, 300 guineas and 200 guineas.

Last day for submitting designs: 31 March 1946.

It is the intention of the Promoters to proceed forthwith with the erection of the buildings on one section of the area covering about 8 acres and subject to the Conditions of the Competition to employ for that purpose the author of the winning design at fees calculated in accordance with the R.I.B.A. scale of architects' fees for State-aided multi-storey flats.

Conditions of the competition may be obtained on application to Sir Parker Morris, LL.B., Town Clerk, Westminster City Hall, Charing Cross Road, W.C.2.

Deposit, 3 guineas.

COMPETITION RESULT

THE "THISTLE FOUNDATION" COMPETITION

1. Mr. Stuart R. Matthew [A.].
 2. Mr. G. Hamilton Gould [A.] and Mr. Bevil Greenfield [A.].
 3. Mr. John Needham [A.].
- Commended: Mr. John P. Tingay [A.], W/O. Christopher Pearce, R.E., W/O. Robert Slater, R.E.

Notices

INFORMAL GENERAL MEETING, TUESDAY, 15 JANUARY 1946, AT 6 P.M.

An Informal General Meeting will be held on Tuesday, 15 January 1946, at 6 p.m., when Mr. Gordon Stephenson [F.] will read a paper on "The Planning of Residential Areas."

ARCHITECTURAL SCIENCE BOARD LECTURE,

WEDNESDAY, 2 JANUARY 1946, AT 5-45 P.M.

"Plastering," by Dr. H. Andrew, of the Building Research Station.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the next available election they should send the necessary nomination forms to the Secretary R.I.B.A. as soon as possible.

R.I.B.A. DISTINCTION IN TOWN PLANNING

The R.I.B.A. Distinction in Town Planning is obtainable by Fellows, Associates (who are not less than 26 years of age) and Licentiates. The test by means of which this Distinction is awarded is conducted by special Examples appointed by the Council of the R.I.B.A.

This award does not take the place of the R.I.B.A. Diploma in Town Planning, which is obtainable by Fellows, Associates and Licentiates of the R.I.B.A. without any minimum age limit.

The primary purpose of the Distinction is to satisfy a demand from senior architects to take a qualifying test in town planning suited to their age and existing attainments.

The Examiners will meet three times a year—in February, May and October. Applications should be submitted to the Secretary of the R.I.B.A. by 1 January, 1 April and 1 September annually.

Copies of the form of application containing the procedure, regulations, general scope of study and bibliography may be obtained free on application to the Secretary, R.I.B.A.

CESSATION OF MEMBERSHIP

Under the provisions of Bye-law 21, the following have ceased to be members of the R.I.B.A.:—

As Fellow: Edward Arnold Mitchell.

As Licentiates: Richard William Marsh Allen, E. Glover Thomas.

"A.B.S."

HOUSE-PURCHASE SCHEME

REVISED TERMS

Advances: Up to 80 per cent. of a reasonable valuation.

Interest: 4½ per cent. gross.

Repayment: By means of an Endowment Assurance term not exceeding 25 years.

No Survey or legal fees normally charged to the Borrower.

Particulars from: The Secretary, A.B.S. Insurance Department, 69 Portland Place, London, W.1. (Tel. WELbeck 5721).

Members' Column

APPOINTMENTS

MR. F. HAMER CROSSLEY [A.] has taken up an appointment as County Architect, Derby County Council. His address is County Offices, St. Mary's Gate, Derby, where he will be glad to receive trade catalogues, etc.

PRACTICES AND NEW ADDRESSES

MESSRS. LORIMER & MATTHEW [F./F.] have removed to 2 Saint Andrew Square, Edinburgh, and will be pleased to receive trade catalogues and other data.

MR. FRANCIS J. HUMPHRY [F.], who has been a partner in the firm of Messrs. Young & Hall for more than 25 years, is retiring from practice on 31 December 1945. The practice of Messrs. Young & Hall will be carried on by the remaining partners at Crown Buildings, 9 Southampton Row, W.C.1, who will superintend any work hitherto dealt with by Mr. Humphry.

MR. G. M. KINGSFORD [F.] has entered into partnership with Messrs. Arthur W. Cooksey & Partners at 11 Garrick Street, London, W.C.2 (Tem. 6106), and at "Stanchions," Tonbridge, Kent (Tonbridge 283).

As from 30 September 1945, Mr. C. W. Hutton [A.] retired from the firm of Mauger, May & Hutton, and P. V. Mauger [F.] and A. J. May [F.], who has been demobilised from the R.A.F., continue in practice under the style of Mauger & May at Parkway Chambers, Welwyn Garden City, and 25 Marylebone Road, London, N.W.1. They will be glad to receive trade catalogues. Mr. C. W. Hutton [A.] will continue to practice from Parkway Chambers, Welwyn Garden City, until the end of 1945, after which his professional address will be 56 Brook Green, London, W.6.

MR. WINTON NEWMAN [F.], owing to ill-health and on the highest medical advice, is compelled to cease active practice, and has retired from the firm of H. V. Ashley & Winton Newman, Chartered Architects. The practice will be carried on by Mr. H. Fitzroy Robinson, B.A. (Arch.) [A.], under the same style and title and at the same address.

Mr. Robinson will have the assistance of Mr. H. H. Bull, who will continue as manager as heretofore, whilst Mr. Winton Newman will be available in a consultative capacity as and when his health permits.

As from 1 January 1946, Mr. Thomas Wallis [F.] and Mr. Douglas T. Wallis [F.] will continue in practice under the title of Wallis, Gilbert & Partners at 172 Buckingham Palace Road, S.W.1, and also at 5 Cromwell Road, S.W.7, and will incorporate as partners W. G. Phillips [L.], F.S.I., and J. W. McGregor [L.] partners in the firm of W. G. Phillips & Partners.

MR. C. N. BYROM [A.] will be pleased to receive trade catalogues at 3 Dolydd Terrace, Bettws-y-Coed.

MR. FRANCIS B. DUNBAR [A.] has commenced practice at 56 Sandgate, Ayr (Tel. Ayr 4944) and will be glad to receive trade catalogues, etc.

MR. DAVID CLARKE [A.] has resumed practice in partnership with his father, Mr. John D. Clarke [F.], at 81 Terminus Road, Eastbourne. The practice will be continued under the style of John D. Clarke & Son [F./A.], who will be pleased to receive trade catalogues.

MR. DAVID HOOPER [A.], formerly a partner in the firm of Messrs. Vincent Hooper & Son, has resumed practice on his own account at 67 High Street, Reigate, Surrey, and will be glad to receive trade catalogues, etc.

MR. C. G. JACOBS [A.] would be glad to receive trade catalogues at The Old Mill House, Sturminster Newton, Dorset (temporary address).

MR. DANIEL J. MACRANDAL [A.] has opened an office at 1 Queen Street, Belfast, and would be glad to receive trade catalogues, etc.

MR. D. E. MORRISON, B.A. (Arch.) Hons. [A.], is now in private practice and his offices are temporarily at 3a Heathway Court, Finchley

Road, N.W.3 (Telephone Speedwell 1996). He will be pleased to receive trade catalogues, particularly in connection with housing.

MR. VICTOR C. L. SAUNDERS [A.] is now personally conducting his practice at 70 Hill Park Crescent, North Hill, Plymouth, and will be glad to receive trade catalogues.

The title of the firm, S. Cym Jones & Arnold, has been changed to Jonah Arnold & Smith, the partners remaining the same. Mr. Jonah Arnold, O.B.E., J.P., a member of the South Wales Institute of Architects, has been appointed High Sheriff of Glamorgan this year.

MEMBERS RELEASED FROM THE SERVICES, ETC.

The following members have notified the R.I.B.A. that they have been released from the Services and are resuming practice and would like to receive trade catalogues, information sheets and other data, etc.: MR. MASON APPS [A.], A.M.T.P.I., 11 Granada House, Maidstone, Kent (Tel. Maidstone 4711).

MR. ERIC S. AMBROSE [A.], 30 Bisham Gardens, Highgate Village, N.6.

MR. LAWRENCE H. BOND [L.], 11 Elmer Street, Grantham.

MR. PHILIP BEARD [A.], City Architect's Department, Plymouth.

MR. OSWALD BRAKSPEAR [A.], 44A High Street, Corsham, Wilts.

MR. H. T. CADBURY-BROWN [A.], 17 Clarges Street, London, W.1. (May, 1994).

MR. J. B. S. COMPER [F.], 36 Sloane Court, London, S.W.3.

LT.-COL. ERIC COLE [F.], Dyer Street House, Cirencester.

MR. C. W. COSTER [A.], Home address: 22 The Newlands, Wallington, Surrey.

MR. DAVID CLARKE [A.], 81 Terminus Road, Eastbourne.

MAJOR ANTHONY R. DANNATT, R.E. [A.], Messrs. A. R. Dannatt & Son, 43 Duke Street, Chelmsford.

MAJOR P. W. T. ELFORD [L.], Messrs. Barron, Rooker & Partners, 17 Grimstone Terrace, Houndscrobe Road, Plymouth.

MR. J. S. FRASER [A.], sole partner in the firm of John Fraser & Son at the new address, 23 Guildhall Street, Dunfermline, Fife (Tel. No. Dunfermline 301).

MR. P. G. FREEMAN [A.], 96 Dorset House, Gloucester Place, N.W.1. (Wel. 8898).

MAJOR E. M. GALLOWAY [A.], 48 The Avenue, Southampton.

MR. JOHN L. GAULDIE [A.], 52 Kirk Brae, Liberton, Edinburgh.

CAPT. HUMPHREY HALL [A.] has joined Paul Pascoe [A.] in partnership, the firm being named Pascoe & Hall, 63 Cathedral Square, Christchurch, N.Z.

LT.-COL. G. H. HAWKINS, R.A. [A.], Messrs. Mathin & Hawkins, Barclay Chambers, Fawcett Street, Sunderland.

MR. H. ST. JOHN HARRISON [F.], 1 Babmaes Street, London, S.W.1. (Whi. 0295).

MR. J. E. K. HARRISON [F.], Temporary offices: 82 York Way, London, N.1. (Terminus 6432).

LT.-COL. J. M. HARRISON, R.E. [A.], 4 Hids Copse Road, Cummoor Hill, Oxford.

MR. J. KENNEDY HAWKES [A.], Lynton, Woodside Avenue, Esher, Surrey.

CAPTAIN J. E. JACKSON [A.], 149 Sandgate Road, Folkestone, Kent.

MR. A. H. H. JENKINS [A.], 18 Evelyn Court, Stourcliffe Street, W.1.

VICTOR KERR & COLBOURN. Both partners have resumed personal control of the practice from their locum. New address: 7 Bedford Row, W.C.1. (Chancery 7611).

MR. C. M. KINGSFORD [F.], 11 Garrick Street, London, W.C.2.

MR. HAROLD A. KAY [A.], Messrs. Robinson & Kay, Victoria Chambers, Stourbridge.

MAJOR R. ALAN LAMBOURN [L.], Hambleton Cottage, Bolton Abbey, Skipton, Yorks.

MR. L. C. LOMAS [F.], County Architect, Worcestershire County Council, 59 The Tything, Worcester.

MR. C. B. K. MILNES [A.], c/o Messrs. Collins & Greene [F/F.], Regent Chambers, 15 Westover Road, Bournemouth.

MR. HEDLEY B. MARSHALL [A.], Albert Chambers, 10 Derby Road, Nottingham.

LT.-COL. GUY H. NICHOLLS, R.E. [L.], 5 Grosvenor Crescent, Hyde Park Corner, S.W.1.

MR. CHARLES E. PEARSON [F.], Messrs. C. B. Pearson & Son, 18 Dalton Square, Lancaster (Lancaster 582).

MR. H. DENT PRIESTMAN [A.], Prince's Dock Chambers, Prince's Dockside, Hull (Hull 35440).

MAJOR RONALD A. PHILLIPS, R.E. [F.], Bush House, 15 Christchurch Road, Bournemouth (Bournemouth 7120).

MAJOR K. H. SAUNDERS, R.E. [A.], City Architect's Department, Portsmouth.

MR. A. R. SHEPPERDSON [L.], 54 Corder Road, Ipswich (Tel. Ipswich 3024). Catalogues, particularly housing, welcome.

MR. W. R. STENNER [A.], 10 Redland Park, Bristol, 6.

MAJOR M. TROTTER, R.E. [L.], 10 Linden Grove, West Hartlepool.

MR. H. B. TOWNER [L.], 220 High Street, Uckfield, Sussex.

MR. A. A. TAIT [A.], 100 High Street, Grahamstown, S. Africa.

MR. P. E. WALKER [A.], Chief Architectural Assistant Engineer Dept., Pontypridd U.D.C., Pontypridd.

MR. RONALD WARD [F.], 33, St. George's Drive, Westminster, S.W.1. (Victoria 5531.)

MR. JOHN WIGNALL [L.], 41 Hoghton Street, Southport, Lancs.

MR. NORMAN C. WESTWOOD [A.], Messrs. P. J. Westwood & Son, Nutfield, Heath Road, Weybridge, Surrey (Weybridge 182).

MR. HUBERT WRIGHT [A.], architect to Messrs. J. Carter Jonas & Son, Land Agents, 8 Suffolk Street, S.W.1.

PARTNERSHIPS WANTED AND AVAILABLE

ASSOCIATE, A.A.Dipl. (Hons.), M.A. (Oxon), 38, desires appointment or partnership in East Anglia or North-east Yorkshire on release from the R.A.F. (November). London practice and teaching prior to war.—Apply Box No. 168, c/o The Secretary, R.I.B.A.

R.E. OFFICER [A.], expecting release in the next few months, requires senior position with a view to later partnership with a southern provincial firm. Wide experience of London practice.—Apply Box 179, c/o The Secretary, R.I.B.A.

ASSOCIATE, 38 (T.A. officer now being released), seeks senior position with established firm of architects, preferably in London or South England, with view to partnership. Particularly experienced in industrial architecture.—Apply Box 180, c/o The Secretary, R.I.B.A.

ARMY OFFICER [A.] requires partnership with established London practice or with newer practice which has good prospects. Capital available according to circumstances.—Apply Box 181, c/o The Secretary, R.I.B.A.

ASSOCIATE, Dip.T.P. (30), experienced in official and private work, housing schemes, etc., requires responsible position with a view to partnership in S. or S.W. area.—Apply Box No. 183, c/o The Secretary, R.I.B.A.

ASSOCIATE (ex-Major R.E.), age 47, pre-war senior partner in provinces, competition winner, seeks partnership in London or district with established architect. Limited capital available.—Apply Box No. 175, c/o The Secretary, R.I.B.A.

WELL-ESTABLISHED firm of East Coast architects desire the services of a Senior Assistant with view to early partnership.—Apply Box 185, c/o The Secretary, R.I.B.A.

JUNIOR partner wanted, age about 40, in large practice in Southern England. Must have experience in alterations to large business premises, domestic work and hospital work. Capital is required, but arrangements as to this could probably be made.—Apply Box 186, c/o The Secretary, R.I.B.A.

MODERN ARCHITECT [A.], with new practice, small convenient office Sheffield, desires progressive young architect as collaborator on mutual terms.—Apply Box No. 178, c/o The Secretary, R.I.B.A.

OFFICE ACCOMMODATION WANTED

LICENTIATE (M.A. Cantab.) with extensive housing society connection would consider working arrangement with Fellow or Associate, including office accommodation in Central London.—Apply Box 184, c/o The Secretary, R.I.B.A.

WANTED AND FOR SALE

MRS. MARIANNE WALTER [A.] is anxious to buy plan chests and would also be glad to receive trade catalogues at 8 Newbould Lane, Sheffield, 10.

FOR SALE: Pantagraph (brass) in mahogany case, by T. Blunt London. Old but good and in excellent condition. Owner finds very little occasion to use.—Apply Box 182, c/o The Secretary, R.I.B.A.

FOR SALE. Antiquarian Board. Halden's model with parallel rule on cable runners, wheels and weights. Mounted on leg trestles with hinged gate to elevate the board, and pivot tray. In excellent condition, as new. To be seen at 1 Ornan Road, Hampstead, N.W.3. Price £16 (cost price).—Apply Box No. 174, c/o The Secretary, R.I.B.A.

FOR SALE. Drawing boards, 44½ in. by 30½ in., by ¾ in. dove tailed (£4); 30½ in. by 22½ in., by ¾ in., dove tailed (£2 10s.); 31 in. by 23 in. by ¾ in. (£2 10s.); or £8 for the three; T squares, 42½ in. (22s. 6d.) 31½ in. (17s. 6d.), both mahogany, 24 in. (5s.), not polished. Small set instruments, dividers, compasses, ink pen and extension, 1 pr. sp. bows: latter can be seen R.I.B.A. Library. Also copy of Fletcher's *History of Architecture*, 8th ed., Hamilton Turner's *Architectural Practice and Procedure*, Redpath Brown's *Handbook of Structural Steelwork*, and Faber's *Reinforced Concrete Simply Explained*.—Write to Mrs. McKay, 25 Laurdale Road, East Finchley, N.2.

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